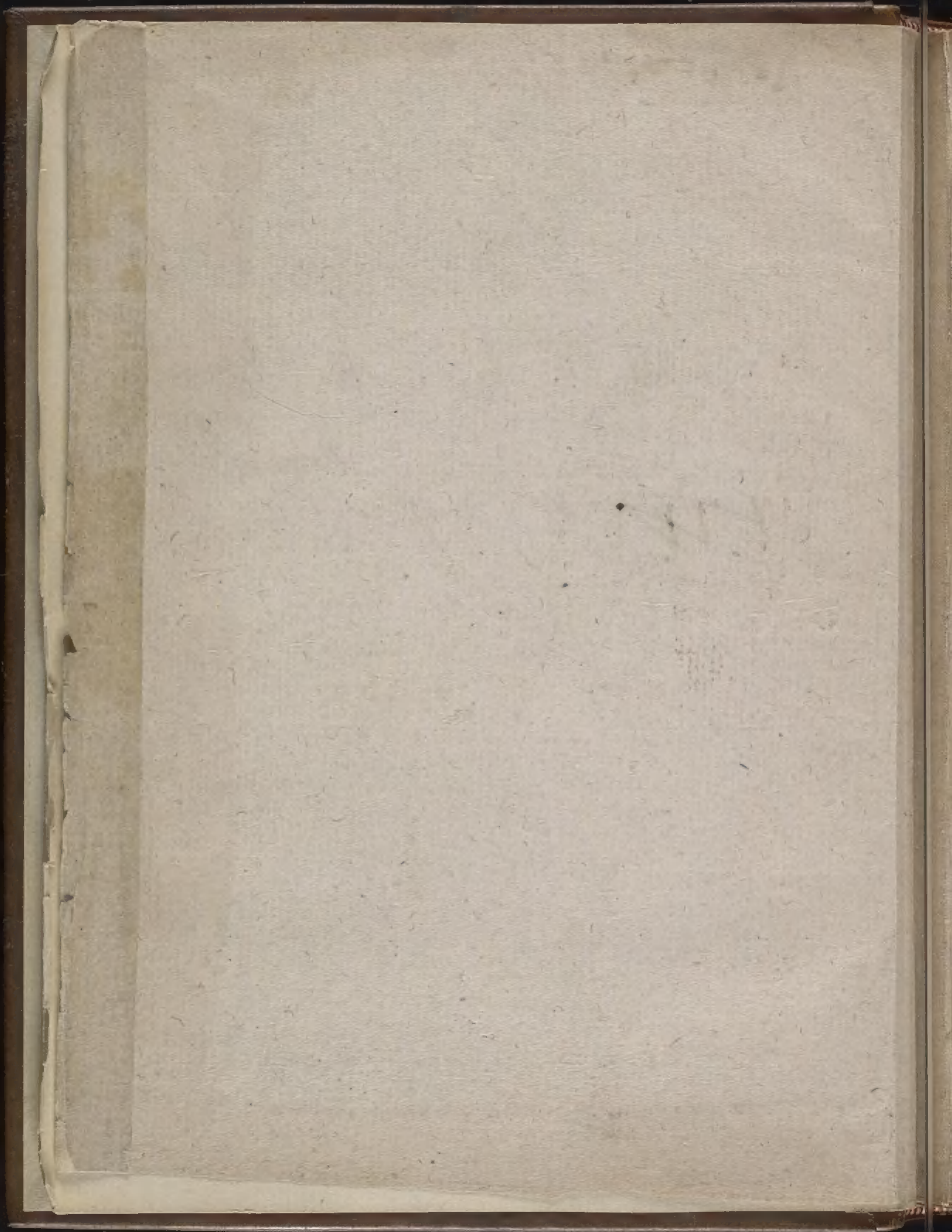




MR. J. H. 7

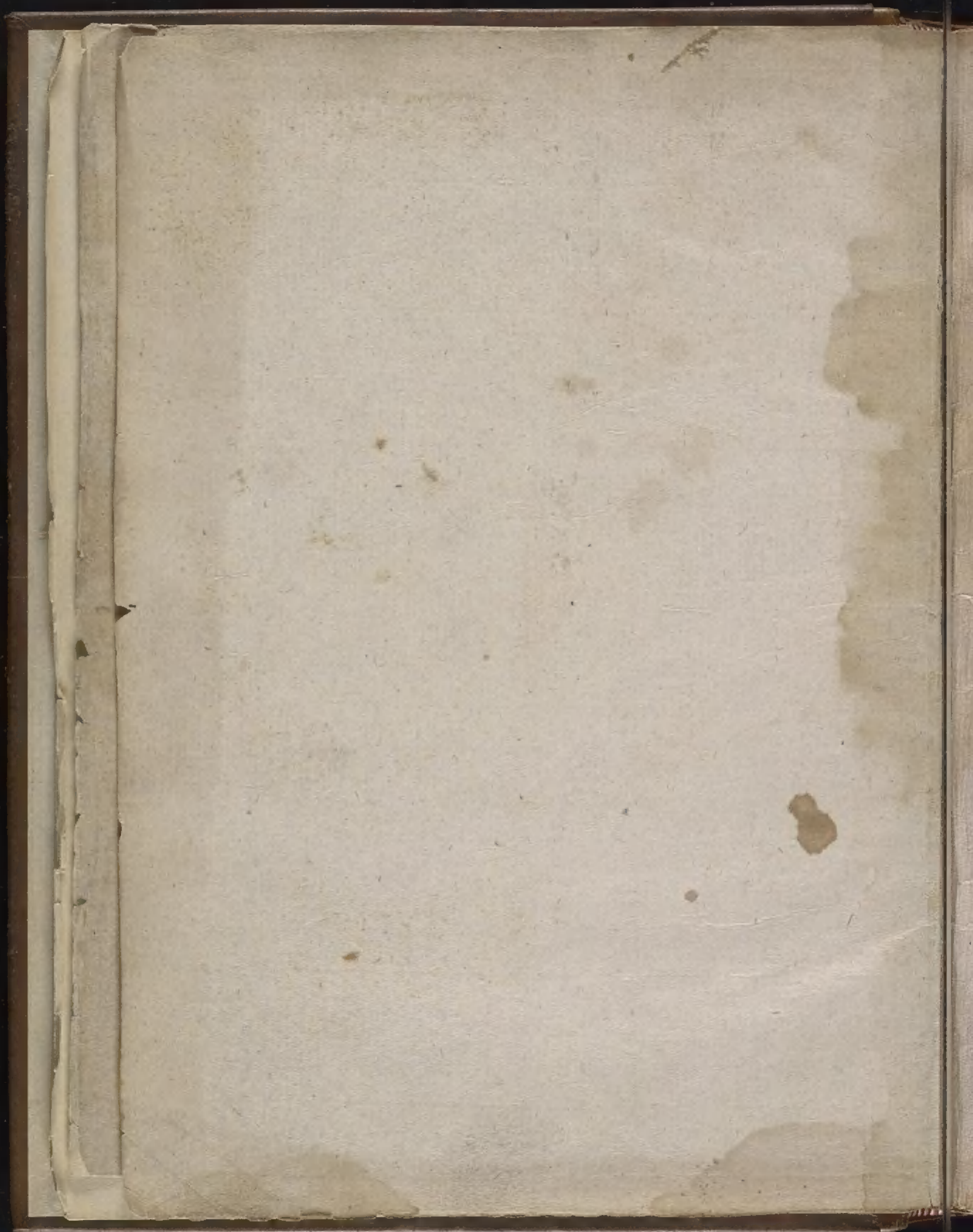








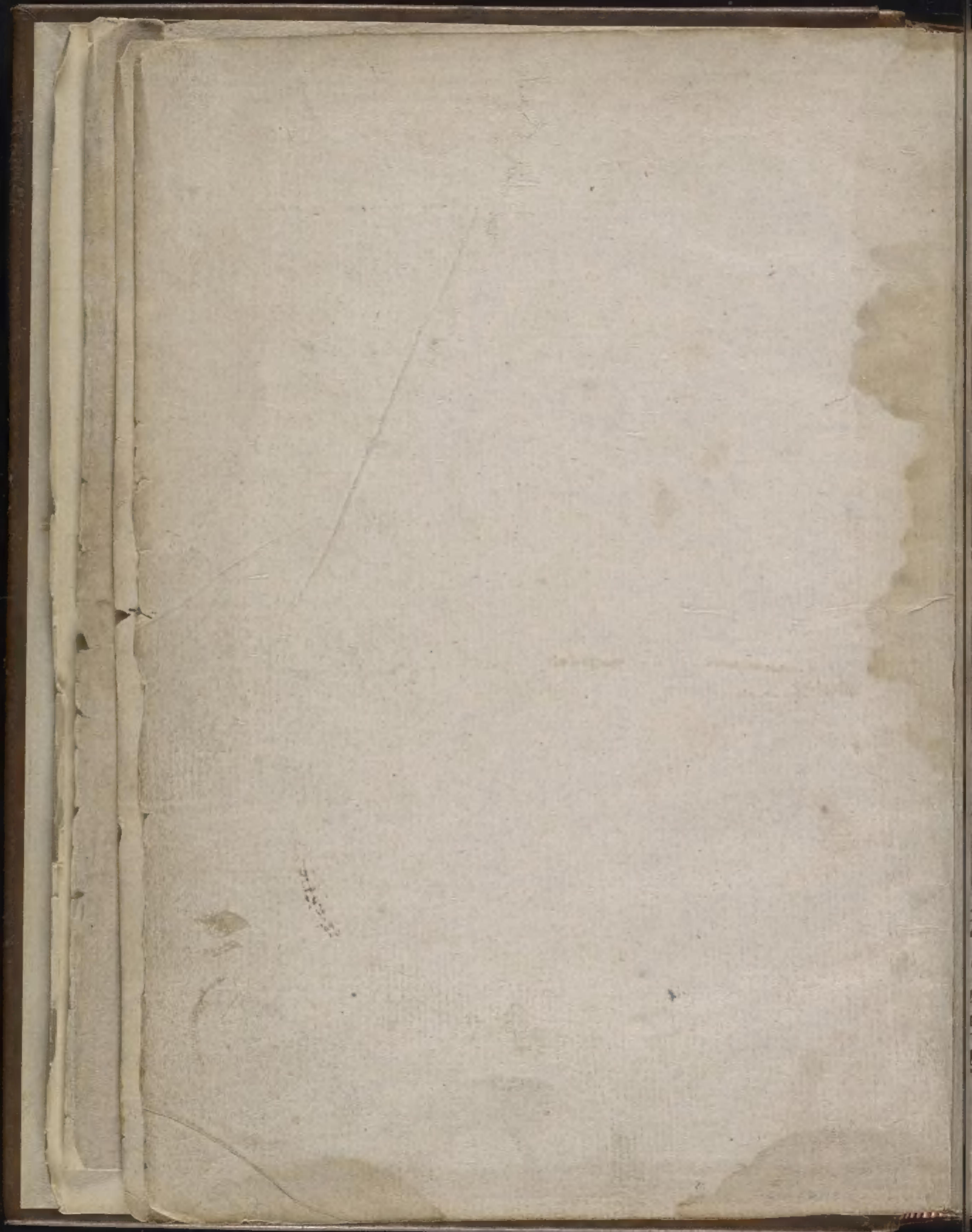












o  
l  
l  
K  
a  
b  
le  
do  
y  
y  
p  
e  
to  
of  
fo  
W  
am



To the Ryght honorable and hys syng  
guler. Good lorde Sir William Cecill  
baron of burghlegh knight of the  
most noble Order of the Garter.  
lorde highe tresurer of Ingland  
in of the Cortes of wardes and  
lyveries Chanceler of y<sup>e</sup> univ<sup>e</sup>rsite  
sitte of Cambridge & one of y<sup>e</sup> Ma  
gistrates prime coucell wylliam  
bourne wylthely longlyfe &c In  
Crece of honor In  
parfyt helthe &c

Ryght honorable to hear as before  
hys tyme I haue byn so bolld as to shew  
unto your lordshyp som of my synple  
labores. as abodgyles. 3. yeares past I  
delivered your lordshyp a booke containyng  
ynge in y<sup>e</sup> first parte materes as toche  
ynge y<sup>e</sup> shewyng In Great Ordenance  
In y<sup>e</sup> second parte y<sup>e</sup> Conclutiones of  
y<sup>e</sup> shalle for to know y<sup>e</sup> hight & distance un  
to any place assigued. In y<sup>e</sup> Conclushones  
of y<sup>e</sup> Crosestase &c. The thirde parte was as  
tochyng Geometrie & how to double y<sup>e</sup> son  
adde or bordyn of a shype & kopes &c  
and after y<sup>e</sup> your honor was desired



for to knowe A way howe for to mesur. y  
proportion of y<sup>e</sup> mould of A Shype wher  
vpon I w<sup>rote</sup> A lytell noote as folowyn<sup>g</sup>  
A arte called Statick shewyn<sup>g</sup> thear  
howe to mesur. y<sup>e</sup> proportion of y<sup>e</sup> mould  
of any Shype in or in wayes wher by  
y<sup>e</sup> youe may knowe y<sup>e</sup> true waye of  
any Shype w<sup>ith</sup> all hyr lading & y<sup>e</sup> same I  
sente vnto youer honor. And now fore  
ther more I am so bold to trouble your  
lordshyp w<sup>ith</sup> this rude thyng whiche I  
do calle Inuentiones or devices y<sup>e</sup> con  
teute ther of ys shewed in y<sup>e</sup> tablle  
folowyn<sup>g</sup> hopeyn<sup>g</sup> y<sup>e</sup> youer lordshyp  
w<sup>ill</sup> bechose to take yt in good parte  
All thos y<sup>e</sup> yt be verrie synple & rudly  
haudelled bothe in y<sup>e</sup> wrytyng & other  
wyse All thos y<sup>e</sup> y<sup>e</sup> materes be verrie nes  
sary in dyveres Respectes & thys I do  
seace to trouble youer honorable lordshyp  
any longer at thys tyme boot God pros  
per youer lordshyp in honor & hartue  
in parfete helthe amen

By youer honores  
humbly at commaund  
ment wyllm boune



Considering that my self gentler reader, my  
 sonne, mynnett payned and labored manye years  
 before men of most excellent wyltes and of pasinge  
 knowledge have compiled these booke and after  
 that he had and reuised them the same examined  
 and perused these said booke and the next  
 forer and wyltes the same published in some  
 and not the worst good cause, my forefoure  
 by the same opened these said booke and  
 founde to no small danger and especially mainly  
 to the wylte judgment and report of all men for wylte  
 cause now beinge of the laste part upon me at the  
 time a hard enterprise to bidden to reason for me to  
 beare or sustayne wylte gate at length showed my  
 self so hardy for to publish the said and diffi-  
 cult matters of dyvers new inventions, wylte  
 the wylte some by of them of the gate some by on  
 me and some by an other but in most part of  
 them gate by my own invention upon wylte  
 cause my affaies of the same had to doo even as at  
 some time any person may be drawn into an extre-  
 mity and in thinge semeth impossible to be avoided  
 yett by some meete and tender deper of danger the wylte  
 may be prevented wylte as other wylte of persons wylte  
 most meete the same opened and yett in thinge of gate



to the reader

presented y<sup>e</sup> cause hath bynt thought to be of no  
opportunitie when y<sup>e</sup> it hath byn knowne and  
before it hath byn knowne it hath seemed most  
unpossible wherefor I can thought it good for to  
drawe them to gether into this booke and barborous  
volom more for y<sup>e</sup> to can them in remembrance yf  
it hath done any cause to use them then the  
synnes of y<sup>e</sup> writinge or pointing of them for y<sup>e</sup> writinge  
thorough is most unlearned and simple wherefor you  
mooste not loke for fine and <sup>and still terms</sup> eloquent and desiring  
you gentle reader to beare w<sup>th</sup> my unlearned consyderance  
y<sup>e</sup> it is y<sup>e</sup> good will y<sup>e</sup> I beare vnto my native countrey  
for to proffitt y<sup>e</sup> common welthe as much as lythe in me  
whereby is y<sup>e</sup> occasion y<sup>e</sup> hath moved me to write y<sup>e</sup> best  
simple and simple invention or device of all thes  
is no doubt but that there is a great number of most  
excellent and polittic and finer codes y<sup>e</sup> I saynge  
so vnde and simple a parson to presume to be a writer  
in thes causes for y<sup>e</sup> y<sup>e</sup> first inventiones or device  
is as concerning matters by sea and land both in  
martiall affaires and other wylle there vnto appertay  
ninge and also there is inventiones or device of ordnance  
as well for service as other wylle there vnto appertay  
ninge and also there is inventiones or device as  
to buildinge y<sup>e</sup> walled cities towne or castles as



apartaining unto martiall affaires and in  
 lyke manner ther is inventiones or deuises as  
 to enginge materis in y<sup>e</sup> fowlinge as well mett  
 for generalles as captaynes or leaders of men  
 and also ther is inventiones or deuises as touching  
 geometricall perspective to know the gte and  
 the distance vnto any maner assigned and to  
 doe it dyuers wayes as other necessary inuen-  
 tiones. or deuises as in y<sup>e</sup> table followinge it  
 dothe appear the more necessary inventiones or deuises  
 as very necessary for to be kept in memory altho  
 it is possible y<sup>e</sup> these y<sup>e</sup> these men y<sup>e</sup> gate by  
 trayned of longe tyme in martiall affaires  
 maye or dothe know a greatt number  
 of better deuises then these yett not vnderstandyng  
 of the written text and altho for the synce  
 ned they will do them no good yett I am assured  
 it they will or can do them no hurt altho  
 that they be but of a synpeltis person inuen-  
 tyng for all arteis sciences or faculties they  
 haue a begynnyng before they can vnto the  
 perfection and yett it is possible the gate  
 bynt dyuers inventions that gate com vnto  
 no perfection or purpose and yett not vnder-  
 standyng they are rather better to be remembred



Agon these persons that eat great venerys or  
hermynges of the one waye and som eat great  
hermynges of the other a engent and yett they do  
practise no other thinge but howe to lyve  
easilye to satisfie the carnall lust and the  
sin and som of them yf they do practise any  
thinge that shall be but mysteiff in y<sup>e</sup> comon  
welthe & for they do nott consider rightly we  
fore if man is borne upon y<sup>e</sup> face of the earth  
at first he is borne to serve God for y<sup>e</sup> earth  
created hym and all maner thinge and the earth  
and the created hym are resonable creatur &  
and the created all thinges for his use as first  
the earth is all his minerall as we do digge out  
of y<sup>e</sup> earth golde sylver and all other metall  
and stone to make us necessarye to serve  
maner use and also the face of the earth is  
the created to bringe forth trees to make us  
tymber and grasse to fede cattell to make us  
foode and meate to make us bread and  
all his other benefites we have man necessarye  
from y<sup>e</sup> face of the earth the sea is all other  
mystrye bringe forth fysh of innumerable  
sortes to make us foode and meate y<sup>e</sup> very



to the reader

It is for maner of life to pass from tonten vnto con-  
teryt the day in this maner as we in the world  
tytted of fetered folles for maner of life vnto  
vnto the world of for maner of life as of some ymone  
and stard as treated for yst of man and also  
of fater vnto the world from y original syn of adu  
by the purgation of the world we are  
first borne to save the world and secondly we are borne  
to save our prync and natine tonten yst to  
say to defende our tonten yst no other forayne  
natione doth spoyle us of our labors or our  
prync of the dignity and tentyly we are  
borne to provide for our selfe and our fa-  
mily and for the day as tentyly vnto the world  
the fear of god and to know the duty to y  
magistrate and to tentyly the world vnto the  
family we are by the world may gett the world  
the world of the world of the world of the world  
that eate any offyce or tentyly of the world  
not to be of the world and to desire to be of the world  
to practice some tentyly according vnto the  
talent or of the world of the world vnto the world  
we are by the world of the world may be of the world



maintained the prime better served and our country  
the better for my lord and the people of the same  
to defend the prime treasure and dignity abroad  
in their good counsel as in their action and dealing  
and for by practising they may attain unto  
knowledge in any affairs yett it is possible  
some will say that in martiall affairs of practice  
is to no purpose as it is in other not in any  
in my field and also it may be said againe that  
there is a number of gentlemen serving in my field  
and yett hath no judgment at all in my affairs  
for if we may see by common experience of some persons  
hath bene trayned up all the dayes of their lyffe  
to goe out of sea 20 30 yea 40 yeaes and yett hath  
no knowledge to be able to take charge for that  
they will practice nothing and other some  
persons by practice is able to take charge in  
space of 3 or 4 yeaes and is as sufficient men to  
take charge as they of gentlemen by space  
of 20 yeaes as we see by practice  
lots much practice for by practice hath hath  
but a lyttle experience of service by consideration



to the reader

of the person of the state seem may practice further  
for it is not possible a man can be so far from  
a goodly heart as yet at a time in some of the  
further the more open in matters of all  
them of the state not only some nor open the  
for my reading of the state as at the moment  
in any affairs at the of the state not only no  
great expedient my matter yet practice. I will  
more as the sum of your <sup>conclusion</sup> of the state  
some more and state never practice nothing  
can find no judgment in any matter. I will  
open must needs confess of the state. I will  
and do the practice may have some judgment  
but then it must needs be said of the state  
seem experience and do the practice must needs  
be some conclusion according to the opinion  
of the will and of the content of the state  
and further more of some of the state  
and at it is many times said of the state  
man be my friend if it is not against  
some but of the state in the state  
state of victory and of the state of the state  
to the state. I will be the state  
redress now it is possible some will be the state



cause and some another cause at 7 can have a number  
of men's opinions and yet have or none of them  
for a mytt & they may be too much affected or repaid  
independently in all respects as may be possible both  
in wisdom & strength and age and men's over-  
and in all other matters as yet and they do not differ  
in respect and test to men that by the training  
in some mytt off long time and that seem to  
experience in some mytt as in some and  
in being tested and of course of other great expe-  
rience they seem by the way of them all ways in test  
some of one that not by the way of some but  
other that by the way of some but of one  
that beginning being a noble man's son by all  
ways of some man's general or as on in some  
of the general and that as more years of age  
some as a general and other that all ways of some  
but as a common soldier or an inferior officer or captain  
and a mytt of one of them that come in to the field  
of one against other of them and they stand or  
number of men to be in number equal and a mytt of  
that that smaller power is of noblesman that is no longer  
except great fortune is but of the noblesman  
that some as a general but of the that shall prevail  
and gain victory and that is to be the best of them  
as a general or that by the way of some general



of longe tyme & dothe know howe for to provide and  
 sett forth an army and contrarywise & of gatekeeping  
 sent at an inferior captain gate no other content  
 to traine his men in general and his compe dothe  
 showe he wege for to loge and provide for his army  
 all other necessary matters and gate his speciall be-  
 hove and dothe know what manner of men he needeth  
 best for all manner of purpose and in what manner  
 dothe know what manner of ground is best to in-  
 trench and his army and also in encircling his  
 his army as he shalde it according to his order and  
 prepare his battell to prepare for every necessity  
 may happen in his gate and also of other  
 tyme in experience of best matters we have to see  
 in gate keeping at an inferior captain or soldier gate  
 never had any occasion to consider of best matters  
 but onely to traine their soldiers and to march them  
 can he know to see their order of battelling of them  
 for fight and to handle their weapon but for an order  
 of battelling of them selves of his army to fight  
 in the field at warre all ways at the discretion of his  
 general and his compe and furthermore cometh in  
 in the fighting of a field of his army over them over  
 given the overtopping in general of his army and his  
 compe gate his full intelligence by what means



it is thus expounded and weat tinge stode w<sup>th</sup> tene  
and weat tinge stode against tene if it be to say y<sup>e</sup>  
tene if we overteene had forstne sure a const tene  
tene had nott b<sup>e</sup>nt overteene and allso tene if d<sup>e</sup>  
g<sup>o</sup>ve if overteene off if tene had nott den sure at tinge  
tene had nott p<sup>r</sup>owayed so if if general and g<sup>o</sup>  
consp<sup>e</sup>l dote p<sup>r</sup>owayed consp<sup>e</sup>l of if matter weat  
weat w<sup>th</sup> tene and weat weat against tene for  
for if tene doe weat weat gate expounded m<sup>e</sup>weat  
p<sup>r</sup>owayed m<sup>e</sup> weat off if it be weat of knowe  
weat ab if if dote p<sup>r</sup>owayed but ab an p<sup>r</sup>owayed  
expounded dote weat nor for no other matter but  
tose matters if gate expounded m<sup>e</sup> g<sup>o</sup> own band or  
weat w<sup>th</sup> tene and if general and g<sup>o</sup> consp<sup>e</sup>l gate  
at tene to stand for an to expound weat p<sup>r</sup>owayed  
if weat any tinge m<sup>e</sup> any matter weat p<sup>r</sup>owayed  
it be if and f<sup>r</sup>uther more tene is a greater matter  
tene tene weat if tene if if general or m<sup>e</sup>  
consp<sup>e</sup>l m<sup>e</sup>weat a weat if general y<sup>e</sup> if tene weat  
w<sup>th</sup> p<sup>r</sup>owayed and weat good w<sup>th</sup> weat if tene may  
weat a weat f<sup>r</sup>uther instructions and knowe  
m<sup>e</sup> tene assured tene any other m<sup>e</sup>weat expounded or  
p<sup>r</sup>owayed weat ab tene for weat it be if it is a p<sup>r</sup>owayed  
or any other p<sup>r</sup>owayed but y<sup>e</sup> if if dote know any  
f<sup>r</sup>uther matter or p<sup>r</sup>owayed tene any other p<sup>r</sup>owayed



to the reader

know but if he will make means to serve it unto  
the general wege by if he may have in better revenue  
or entertainment so that you may receive of it 40 or  
50 thousand men in a year of it 40 or 50  
of each any knowledge or cunning but if it will be stored  
and served unto the general wege of it the general be  
valiant liberal and wise as it is a place for a wise  
man there is no doubt of it but if it be given to  
practise these matters he must needs of force be  
com most excellent for if an infinite number of soldiers  
men be practised as put into their hands so that of force  
they must needs exceed all other men in martial  
affaires wege as it is but an inferior captain  
all the more if he be given unto practise then never again  
to it wege of it other gate for if he gate not the  
instructions in these affairs not to be a general  
except with fortune be and this gentle reader I do  
leave to observe you any longer desiring you to beare  
with my evidence of it that I have upon me to publish  
any new inventions and especially in these affairs  
considering wege a number of wise and valiant  
gentlemen and soldiers and other former wars  
if there is in England and there is no doubt of it  
that there is no doubt of it but if it be given  
yet I am with a good all the more if they will do them  
no good yet they will do them no hurt and it is possible



to the reader

It is upon the redmpt of the world and inventions together  
they may find in some of them it being it may be  
in them and they them selves may find together  
of them for at the first invention of any thing or  
new thing them it came after them brought it into  
perfection so it is upon the end and their inventions  
it is they may be some further matter gathered of them  
and may come into perfection at length it is some of them  
do they come into their purpose

By the way to the reader



## The tablle

The table, of the content of the doctores  
and first of matters by sea and land

The first doctore is howe for to know whether  
if any shippe be a boate then if it be  
you are in and a list whether if it be over  
tope you or under tope you and to knowe  
it justly a myle off how if you do come at  
land

The 2 doctore howe for to come a shippe 2  
to fight with the enemy myde

The 3 doctore howe for to cast a plume or 3  
open deck with the enemy if it is nott possyble  
to enter if it is nott possyble to enter  
any more

The 4 doctore is howe to observe any thing 4  
of any shippe a boate

The 5 doctore is howe for to observe any  
shippe from any place and howe to observe  
you be so if it is to strange for you

The 6 doctore howe you come to prevent  
a man of warre if he be nott able to



Ego fablo

6. Let you a barge not to enter the mouth of the river  
 but 10 men shall be able to keep it 100  
 7. Let 7 days. Let you know how far to march to  
 the river & then layed up a barge at the mouth of the  
 river of the river of the river  
 8. Let 8 days. Let you know how far to march to  
 the river of the river of the river of the river of the river  
 9. Let 9 days. Let you know how far to march to  
 the river of the river of the river of the river of the river  
 10. Let 10 days. Let you know how far to march to  
 the river of the river of the river of the river of the river  
 11. Let 11 days. Let you know how far to march to  
 the river of the river of the river of the river of the river  
 12. Let 12 days. Let you know how far to march to  
 the river of the river of the river of the river of the river



Dec 13 done / Rowte you how to prevent gun 13  
 + munitie to blow your men over boorde when  
 it you have entered your men and also by that  
 means you may have ~~the~~ <sup>the</sup> most of the men over  
 to make the other ship in danger to be entered

Dec 14 done / Rowte <sup>you</sup> how far to use a ship 14  
 if you will not fight but still forward and back

Dec 15 done / Rowte you how far to make sure 15  
 from your mast for the men from  
 being spotted, wch is a great ordinance for

Dec 16 done / Rowte you how far to remain 16  
 given or taken all off if it be a melle boorde  
 or over in place of the ship still stay for  
 the most men in day

Dec 17 done / Rowte you how far to make provision 17  
 to bring a ship in over a barre and to make for  
 backe by the ground no battle in gun and of  
 how far to tufft if ship be over ought of the  
 water yf it happeneth so that there is no water  
 to go over yf there be a battle it will be over

Dec 18 done / Rowte you how far to know the 18  
 true weight of any ship + munitie in water

Dec 19 done / Rowte you how far to know 19  
 the weight of any thinge found in water to







- by myght it is to be to fowle perfectly at a fowle  
by myght it is to be to fowle perfectly at a fowle  
under fowle and fowle  
27 done fowle away fowle to a battery 27  
to fowle by myght and done to fowle perfectly  
unto it more  
28 done fowle away fowle to a battery 28  
under fowle unto an place myght and to  
fowle unto it more myght and to fowle  
perfectly unto it as if it myght be made to fowle  
it fowle at your order name it placed  
29 done fowle fowle to fowle at 29  
fowle that it under fowle and fowle  
30 done fowle fowle to fowle at 30  
a movable more at fowle men or fowle men upon  
31 done fowle weat fowle to fowle 31  
fowle to myght against fowle and more  
32 done fowle fowle to fowle to fowle 32  
it is not truly fowle to more a fowle fowle  
33 done fowle fowle to fowle to fowle 33  
fowle to fowle a tannow over any more  
ground or more of it to fowle fowle and  
fowle more to fowle a battery upon any ground  
fowle fowle fowle it to



the table

- 34 *See 34* I desire / I praye you for to receive  
power of ordynance y<sup>e</sup> it shal be w<sup>th</sup> y<sup>e</sup> / I shal o<sup>ve</sup>  
our charge w<sup>th</sup> powder and y<sup>e</sup> / I shal not m<sup>it</sup>  
you come &c
- 35 *See 35* I desire / I praye you for to receive y<sup>e</sup>  
power of a p<sup>er</sup>son y<sup>e</sup> y<sup>e</sup> shal be any spirit or  
my l<sup>et</sup> I desire in it &c
- 36 *See 36* I desire / I praye you for to carry a canon  
over a river or water w<sup>th</sup> you shal a l<sup>et</sup> &c
- 37 *See 37* I desire / I praye you for to know  
whether y<sup>e</sup> any p<sup>er</sup>son of ordynance / offi<sup>ce</sup>  
is m<sup>it</sup> or not &c
- 38 *See 38* I desire / I praye you for to know w<sup>th</sup>  
y<sup>e</sup> any p<sup>er</sup>son be stand w<sup>th</sup> y<sup>e</sup> w<sup>th</sup> any  
company &c
- 39 *See 39* I desire / I praye you for to know am  
power of ordynance w<sup>th</sup> y<sup>e</sup> ordynance charge or  
indyn<sup>ce</sup> / ordynance / I shal &c
- 40 *See 40* I desire / I praye you y<sup>e</sup> you shal have  
power w<sup>th</sup> your ordynance at a battery to make  
a l<sup>et</sup> in a wall &c
- 41 *See 41* I desire / I praye you y<sup>e</sup> y<sup>e</sup> m<sup>it</sup>  
of a l<sup>et</sup> y<sup>e</sup> y<sup>e</sup> y<sup>e</sup> you do l<sup>et</sup> your l<sup>et</sup> and



# The fable

Just a word now for to know how much that it  
will be away at a man's ear

See 42 down private how is it at the or 42  
town to be feared and find no ordinance to  
what meant it they may make them order  
to defende them selves etc

See 43 down private how for to ought / See 43  
another person the all one both and the one  
state and way of it wonder etc

See 44 down private how for to / See 44  
times in a year at one hundred of it

See 45 down private into your how to make 45  
any word of ordinance you off at any time a word  
it pointed by it / See no person being there

See 46 down private how to make a word 46  
you of we know not as the being there

See 47 down private how if you shall 47  
know whether if any word of ordinance be  
truly heard if it is by the way of it follow of  
if you be right in it my word of it

See 48 down private whether if it be 48  
be taxed thereby it is to be my word for  
warded if more of it than it is



# The Table

at the bottom or broad of

49 See 49 down private how you shall know

of true tenures of the middle of any piece in every

50 See 50 down private of transference that of

tenures does not as to private so much

powder as of salt wanted at all other times

ordynance does and yett y<sup>e</sup> will of y<sup>e</sup> founder

of ordynance is to last all yeares y<sup>e</sup> tenures

in the middle of the salt is in every

51 See 51 down private how far to know

how many furlongs or what part of an

any great wall must be a degree in

part of ordynance

52 See 52 down private how far to place

ordynance in a fixed

53 See 53 down private how far to place

ordynance in a fixed

54 See 54 down private how far to make

at all for private of does provide all other

for worst

55 See 55 down private how far to make

an ingrown to know y<sup>e</sup> strength of powder

~ ~



## The tablle

Page 56 devise howe for to make an 56  
ingrown y may be called a gaine y shall layd  
apart at one tyme better then a ladder and shall  
run vnder y powder and lay it more close then y  
ladder w<sup>th</sup> oughte y turninge ete<sup>r</sup> y ladder or  
pauise for w<sup>ch</sup> is vnder m<sup>is</sup>take to ready or  
donaue m<sup>is</sup>take in y tyme of p<sup>er</sup>uise

Page 57 devise howe to make an ingrown 57  
to way your powder or your fottis &c

Deuise of walles of towne and towne or fort & castle  
Page 58 devise howe for to over take y wall 58  
of any towne or castle w<sup>th</sup> oughte y fowtninge of  
of ordynance &c

Page 59 devise howe for to breake downe 59  
y walles of a towne or castle or to breake downe  
Engle and fowtninge &c

Page 60 devise howe to make a balyng 60  
ladder in fowt & tyme y upon y ladder shall  
have the advantage of y fowt of tyme that are upon  
the wall off y walles of any towne or castle  
w<sup>ch</sup> is y it be to stand at y poss<sup>ib</sup>le of y p<sup>er</sup>uise or  
out of the w<sup>ch</sup> &c

Page 61 devise howe for y you may p<sup>re</sup>vent 61  
y condempnyng of any towne all of y it be a  
towne situated in a dry place &c



- 62 ~~See~~ 62 draw powder for to powder  
knowe over the underminding of the ground
- 63 ~~See~~ 63 draw powder for to make a  
arrow and a wall in the ground to place powder  
to blowe over any castle or fort or the walls  
of a town and give to make a trench to goe for
- 64 ~~See~~ 64 draw powder for to drawe  
away in the ground for the underminding of it to  
come right under any place of the ground where  
is a principall point in underminding
- 65 ~~See~~ 65 draw powder for to powder  
drawe a breach on the wall and the bottom  
so continued if the can not march it  
then it doth serve unto you how to make it  
defensible
- 66 ~~See~~ 66 draw powder for to powder  
would cast a dyke over the ground and  
would make a wall or rampart of the stuff  
and you would have a wall so high as you desire  
with powder unto you how high it will be of  
the stuff and of the powder drawe it for a  
height then you may know in the manner  
howe it will be of the stuff &c //
- 67 ~~See~~ 67 draw powder for to powder  
the trench for an arrow or the trench of the wall  
of any fortification &c



Число

See 68 down from the lower for to know 68  
 & length of an sew run at length of a  
 ladder if it is to be set against a concreting wall  
 or other way to know length of a thing from  
 corner unto corner &c

I go of deare comfort unto you as if you do know 69  
 of length of any love by me from round  
 into round and but one of y<sup>e</sup> other y<sup>e</sup> do know  
 how to know y<sup>e</sup> true y<sup>e</sup> do know

To go downe & growe by what meanes they  
 maye more fully growe to shadowe & shade  
 w<sup>ch</sup>er at what order maner is planteth of  
 familye & soe shall not anye thinge be occupied  
 w<sup>ch</sup>er of a good order maner yf it be upon  
 anye plant forme or place & theye be no less  
 able to defende them or shadowe them &c

See yr letter abt to ring of Amherst 71  
all my things down or for to be done / ready to

~~Sed yz deare friends~~ you for to convey letters  
settlingly &c.

Page 73. I have at hand a way for to convert  
letters from the old

Sept 74 done, I have by you for to convey 74  
any great quantity of either or both by you  
will not you from found nor knowen kind to  
convey them, I shall by and not to be knowen by



Table

75 The 75 device sheweth how if you shall know of mynde of your friends in your myght weath if it wold do or weath if you shall do for your self

The 76 device of martiall playes by land

76 The 76 device sheweth how unto you how many men wold stand on any piece of ground to be in the in regard of battell or marching if from wherby if you may have weath number of men that may be of them self

77 The 77 device sheweth how far to and how many hundred of men wold be in a myle off land that you see by if you may by it have off the marching

78 The 78 device sheweth how to know the number of men

79 The 79 device sheweth how to know the number of men that may stand upon a ground if it is to be a ground that is at main foot if one way at it is if other way and also that it is tabled many for if you will see

80 The 80 device sheweth unto you what you have any thing or battell given unto if you or from off the battell then upon if you or if you off the battell that is at strong at if from the

81 The 81 device sheweth you a way for to know



# The Table

How many men will be in a rank & how many  
 ranks of men shall be of them for any number  
 of men assigned to be slain upon any ground  
 space so ever if you would have bestowed them  
 betwix length and breadth and also for to know  
 how many foot of ground square they will hold  
 upon or occupy &c

Page 82 devise how to give a way for to know 82  
 how many of men you have for to know  
 how many of weapons of every sort  
 and you would be so many men in a rank  
 how many ranks of men of every sort of weapons &c

Page 83 devise how to give a way for to know 83  
 how many of men you have for to know  
 how many of weapons of every sort  
 and you would be so many men in a rank  
 how many ranks of men of every sort of weapons &c

Page 84 devise how to give a way for to know 84  
 how many of men you have for to know  
 how many of weapons of every sort  
 and you would be so many men in a rank  
 how many ranks of men of every sort of weapons &c

Page 85 devise how to give a way for to know 85  
 how many of men you have for to know  
 how many of weapons of every sort  
 and you would be so many men in a rank  
 how many ranks of men of every sort of weapons &c



- war spoiled ete. by Jett or by any other my  
fortune it doth serve unto you for to sope  
of some other men present by againe &c
- 36 The 86 devie serve to at tofing. y consideration  
of tenger in for myng of cattolles and  
what tenger is to be for some &c
- 87 The 87 devie serve unto you what is to be  
done wth your owne to weath for your dymmer &c
- 88 The 88 devie serve unto you what place  
to goe unto for refuge wth your dymmer  
have gotten by tiven you and some &c
- 89 The 89 devie serve you if you may taine  
your matter tere and most to be seen in myng  
and also by it mended god may serve it from  
y wett in any myng &c
- 90 The 90 devie serve unto you for if you  
know wth it be in myng yst tere be com  
giffen serving yst y myng be mended &c
- 91 The 91 devie serve you for to travell by myng  
or by day in any place yst wold not be  
seen &c
- 92 The 92 devie serve you an armed man  
may swim over any bar &c
- 93 The 93 devie serve you for if you may mar



# The Table

Bringt upon a Godaune & a gold army of indur  
and the <sup>re</sup>gardeged may pass over any river or  
water yff it be nott to greatt a biddye &c

See 94 devie <sup>some</sup> ~~secrete~~ how for to make / <sup>some</sup> ~~secrete~~ 94  
how if you may make ab many bottles in <sup>some</sup> ~~secrete~~ day  
at shall be able to carry an gold army of indur  
over a haven or river at one or too tymes and off  
it provi<sup>son</sup> if you shall carry w<sup>th</sup> you outant  
in a wagon shall be able to carry off it ab / shall  
at many bottles at shall be able 5 or 600  
and in at one &c

Other necessary devies at to long paypeltine  
See 95 devie <sup>other</sup> ~~secrete~~ how to know how if you shall 95  
know whether it <sup>other</sup> ~~secrete~~ ground be good or bad  
if you do stand upon &c

See 96 devie ~~secrete~~ how for to know water 96  
if it is possible to bring water into any place  
from y<sup>e</sup> fount of any spring and how far it  
may be away &c

See 97 devie ~~secrete~~ how for to turne a water 97  
in any other way &c

See 98 devie ~~secrete~~ how for to know y<sup>e</sup> fount 98  
of a tower or wall w<sup>th</sup> y<sup>e</sup> wall by a spring & fount  
it is to say to know y<sup>e</sup> fount w<sup>th</sup> y<sup>e</sup> fount at  
one fountinge so if you may come oute of fount  
of y<sup>e</sup> wall &c



99 Reg 99 device / serveth you for to know y<sup>e</sup> height  
upon y<sup>e</sup> ground can not come unto y<sup>e</sup> wall by  
any staff / shadow. &c

100 Reg 100 device / serveth you for to know y<sup>e</sup> height  
of a tower or wall by contrary shadow y<sup>e</sup> staff  
for any staff y<sup>e</sup> length of y<sup>e</sup> shadow by y<sup>e</sup> staff

102 Reg 102 device / serveth you for to know y<sup>e</sup>  
distance unto any mark by y<sup>e</sup> staff at one  
place beinge at one end & another in any place

101 Reg 101 device / serveth you for to know y<sup>e</sup> height  
of any thinge aloft from y<sup>e</sup> ground  
by y<sup>e</sup> staff

103 Reg 103 device / serveth you for to know y<sup>e</sup>  
height of any wall and y<sup>e</sup> distance unto y<sup>e</sup> tower  
by y<sup>e</sup> staff &c

104 Reg 104 device / serveth you for to know y<sup>e</sup> distance  
unto divers markes at one by y<sup>e</sup> instrument  
called y<sup>e</sup> surveyor's staff where you stand y<sup>e</sup> you  
may make a table or chart for any content &c

105 Reg 105 device / serveth you for to know y<sup>e</sup> height  
of any tower / tower or wall y<sup>e</sup> distance beinge  
known by y<sup>e</sup> shadow of y<sup>e</sup> staff &c

106 Reg 106 device / serveth you for to know  
y<sup>e</sup> height of any hill how much y<sup>e</sup> it is over or  
lower then y<sup>e</sup> ground y<sup>e</sup> you do stand upon and of y<sup>e</sup>



especially if it distance be any thing far off  
 by it degrees off a quadrant or astrolobe &c  
 See 107 how to write how it you shall know  
 it distance unto any place standing upon it  
 how being upon any right cliff by it east  
 and you shall know it in some cases by it degrees  
 and in other some cases by it scale &c

And so 108 levin Tenetgo for if you shall 108  
 know of distance unto any City or if you  
 beynge in a Ship or in land and botet  
 the port saylynge and nott standynge full bot  
 by the degrees and also by the parties of the world

Get 109 down & write away to know the 109.  
distance into any place & things on it & you  
in a few days more exactly than before we get  
by it & those stuff &c

Des 110 know how far to know the  
 site of a wall or tower the distance of water &c

To go in down / private way for to know the length of  
a tower or wall an other way at right distance

112 deare friends unto you y<sup>e</sup>at you saw  
 am occasion to lift or away am tenger to from  
 in ground and to do y<sup>e</sup> after all p<sup>er</sup>fect w<sup>it</sup>h and you  
 knowing of w<sup>it</sup>h y<sup>e</sup> of y<sup>e</sup> thing y<sup>e</sup> it is to be lifted



# the fable

- it shew you may know before hand whether  
it will lift & tinge or not &c
- 113 The 113 devine secret sheweth you what you do by  
any tinge w<sup>ch</sup> a vessel and knowynge the  
way of it & tinge it is to be lifted then you  
may know that way will lift it or not it  
app<sup>er</sup> at the test way will way the other way  
is known by compass of the vessel and the  
compass of the effect &c
- 114 The 114 devine secret sheweth you what  
on vessel doth turne an other then you may know  
if you will be turned one or both the you may  
know how many times it & other vessel shall  
be turned about by the number of tinge &c
- 115 The 115 devine secret sheweth in lyce manner what  
vessel doth turne an other w<sup>ch</sup> way it will be  
a ropp or requit then by the turning of the one you  
may know the turning of the other by the compass  
of both the vessels &c
- 116 The 116 devine secret sheweth how far to do all any  
plattform or superstitious &c
- 117 The 117 devine secret sheweth how far to know what  
proportion it can be made or square of one hath to  
the other whether it be in way of one measure &c



Regd 118 down Rowete how far to dobae aspe 118  
led bodye at tubos or globes or faski or y tonage  
of a ship and to beyn y melle and proportion m  
all poynts &c

Regd 119 down Rowete how far to know what 119  
proportion y any said bodye gate unto y dya  
tubos or m globes wester y it be in wayst or  
in misme &c

Regd 120 down Rowete how to misme globes & 120

Regd 121 down Rowete how far to misme any thing 121  
forme such as geometri can not fynd any order  
for y mismeing the dya at brance. or crownde  
in misme and such other &c

Regd 122 down Rowete how far to place a plat 122  
in a house or chamber for to be in what tynge  
is a good m y fynd &c

Regd 123 down Rowete unto you how far to 123  
know y dystance unto any towne upon y face  
of y eall earth by y longetude and latitue &c

Regd 124 down Rowete how far to know unto 124  
what quarter of y world y any towne doth  
beare from you y it to say by what poynte  
of y hem pass wester is by known by  
y longetude and y latitue &c

Regd 125 down Rowete how far to know y 125



some man degree at some ab eye by length  
of shadow of staff &c

126<sup>th</sup> Dec 126 deare / servitee / how for to know  
the hour of the day it is to say what it is  
at last by length of shadow of some  
a staff &c

127<sup>th</sup> Dec 127 deare / servitee / how you may send  
letters secretly unto your friends and write  
letters from them when you are besieged in a town  
or fort and no way to pass over it no by

128<sup>th</sup> Dec 128 deare / servitee / how for to make from  
lead or iron or any kind of metall to print  
overst & ayde of any thing to escape it or  
cause it / wynn &c

129<sup>th</sup> Dec 129<sup>th</sup> deare / servitee / how it may be possible to  
burne any thing it is apt to take fire as good  
wooden or iron or steel or piece and / may be set  
false a myll or a myll from you and to do it  
by glasse &c

130<sup>th</sup> Dec 130 deare / servitee / how it is possible to  
see a thing at a great distance of sea to read  
a letter a quater of a myll from you or to see  
a man 4 or 5 mylls off or to see a town or  
castle or 7 mylls off and to see the wind  
and toward thereof

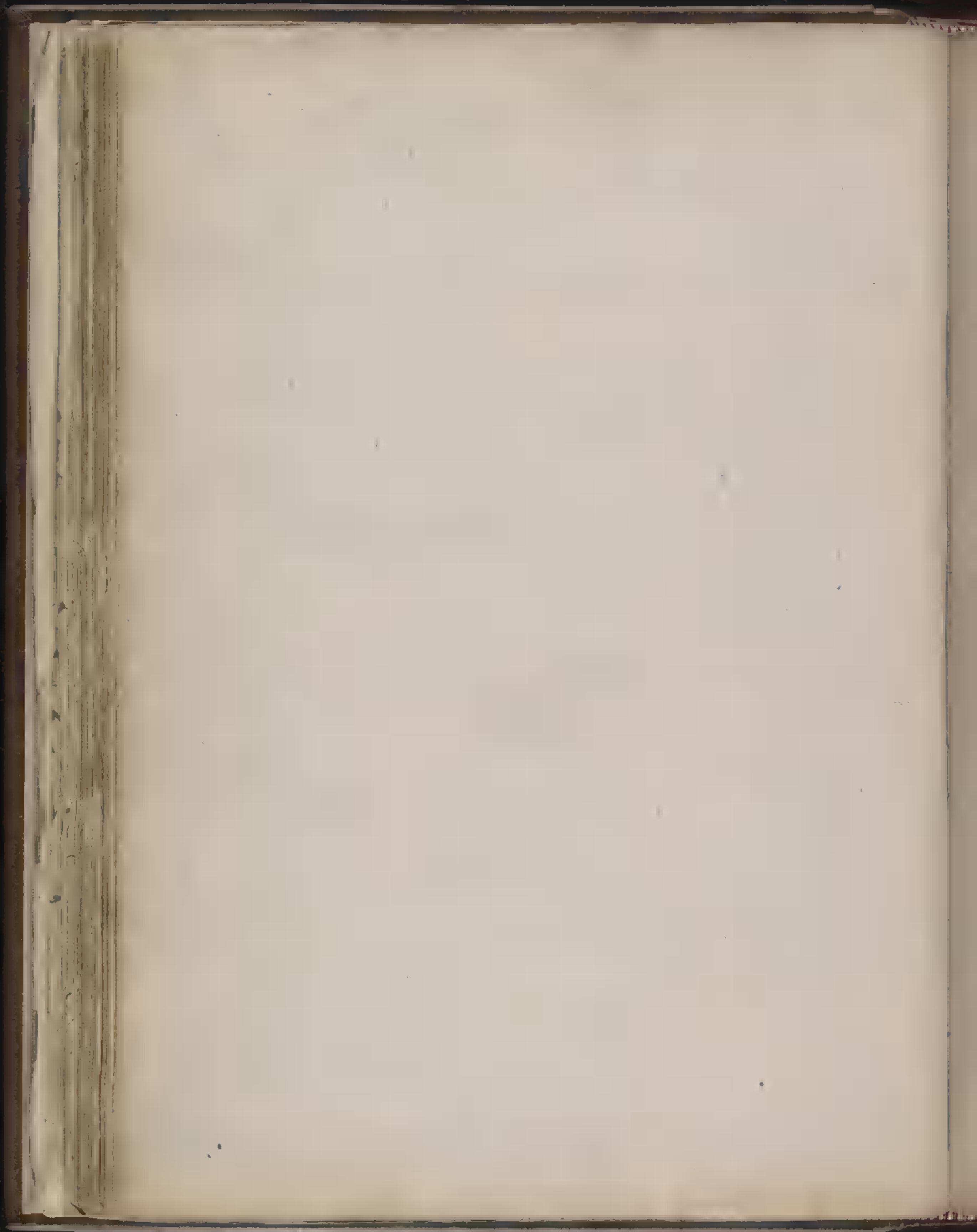


Page 131. Desire a quantity of  
make a frame or frame or frame  
to run a Great quantity of a  
100 to run 1000000 of the

Page 132 I have thought good  
to mark an Indian to go off from  
you or to go off into you or to go off  
up or down to great  
Hill &c

Box 133 being formerly home  
of the 26th Regt. Ills. to which many of  
our soldiers belong & 2<sup>d</sup> Cannon Regt. Ills.  
have fought battles in Iran  
by Ju. G. M. M. M. M.



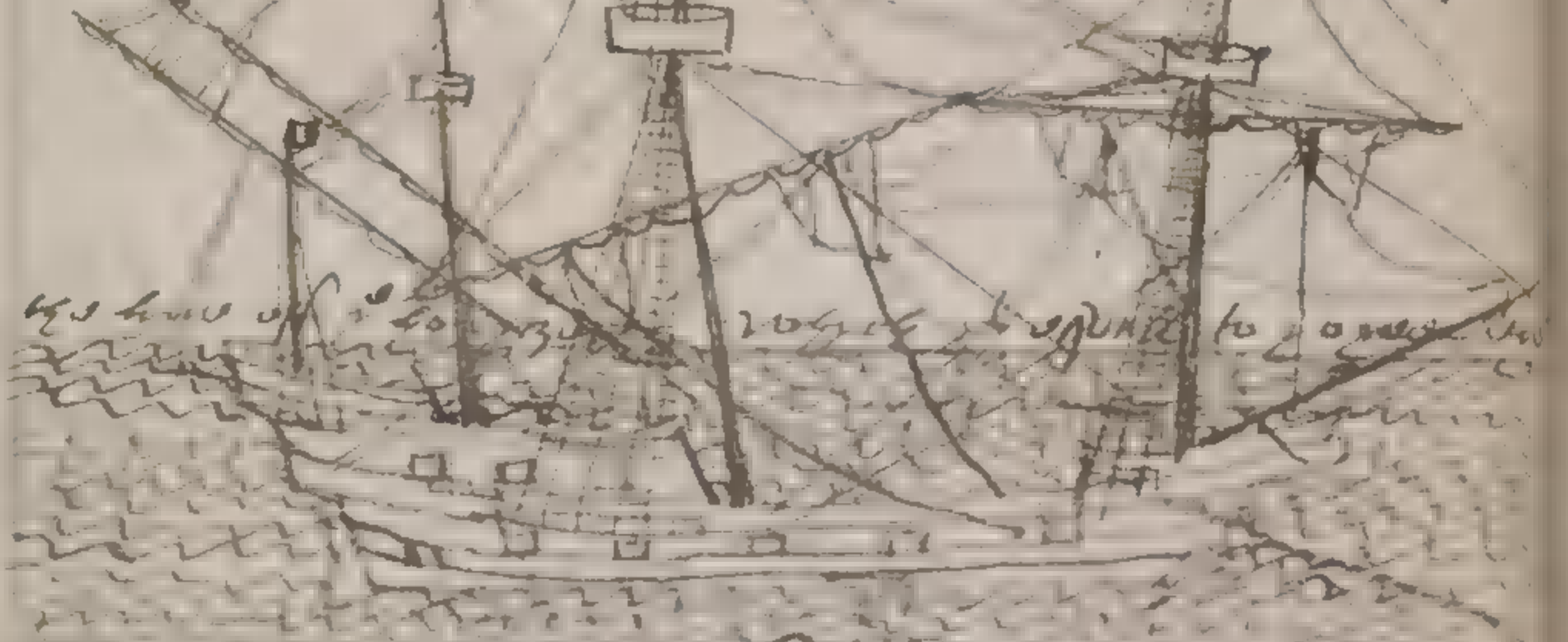








In the 6th Reman. ... part of ...  
 off ... 22p 16 ...  
 ... 22p 16 ...  
 ... 22p 16 ...



In the 6th Reman. ... part of ...  
 off ... 22p 16 ...  
 ... 22p 16 ...  
 ... 22p 16 ...

In the 6th Reman. ... part of ...  
 off ... 22p 16 ...  
 ... 22p 16 ...  
 ... 22p 16 ...





the firste daye of the month

firste tyme for to knowe whether that any  
 ship be by us or lower of. For the tyme that  
 that you are in or also whether that you do  
 over topp or under toppen any yt is  
 necessary for him that is a captain of a ship  
 for to knowe for by that meanes they may growe  
 great advantage by the knowinge of it and in  
 that I mean great murther by nott knowinge of  
 it for when if ye do the knowe before that ye  
 do the saye a ship a boone whether to enter  
 his mine to the most advantage and east yt  
 is a great tytle for god to doe moste good and  
 this waye you shall knowe it most certainly  
 stande you upon the pompe of your own ship  
 and looke you upon the other ship and yf that  
 you doe see the horizon twete over y pompe by  
 other ship then the ship that you are in is  
 then of boone then the other ship but yf that



you doe see any pt<sup>e</sup> of the other Shipp then the  
 line of the horizon then that pt<sup>e</sup> of the other Shipp  
 is lower of lower then your Shipp by so much  
 as you doe see above the line of the horizon for  
 this is general for eu<sup>e</sup> look what seen if you doe  
 see euen the horizon is in the m<sup>e</sup>asure  
 equall with your eye meter euer now for as by  
 this means you may knowe what length  
 if any Shipp is in euery place comparinge  
 by your one Shipp at this if your Shipp be  
 higher then the other Shipp then you lower  
 in your one Shipp till such time that  
 you doe see the pt<sup>e</sup> of the Shipp euen  
 with the horizon and then look upon  
 your own Shipp and make note that  
 the horizon entere then that pt<sup>e</sup> of your  
 Shipp is in the equall measure of the other  
 Shipp and by this means you may know any  
 Shipp in euery place at your pleasure and then  
 to knowe whether that other Shipp



to the on toppre you or under toppre. you then other  
 good wppre. you see <sup>on the</sup> or <sup>toppre</sup> sende wppre upon the groundes  
 and then wppre. y. youe doe see the topp  
 of the other shippe in the the horizon  
 your eye is in sight in the the other ship  
 topp wppre that you be under or on the  
 topp of your own shippe and the is true  
 without any faille

### The Second Device

As touching the howe for to arme a ship of  
 warre to fight wth anye other ship or ships  
 the most be considered y. you doe see your  
 men at the at may be for beynge poynted  
 the small shot or quarrells and arrows  
 wether for you most have a boord of a sayle  
 or eise some other tawase parget and  
 make fast all a longest y. wass and doctes  
 of the shippe and also to arme y. forayle  
 and y. poore wth mantles or ground and  
 such other by the way to standon your



[illegible]







the first one and the market, 4 for every  
 sack and ten pence for every pound of  
 of the sack a bottle of iron with a good brode  
 for and to be of the length to the 20 yds  
 sack of the sack of wood and long and of  
 the length of the sack and of the beam and all  
 the things to be for the better and to be  
 to the town of the sack and ten pence if you  
 do not know you being a merchant man if  
 any of the sack of wood do the sack of the  
 sack of the sack of the sack and to be of the  
 bottle and to be for the better and to be  
 of the sack and ten pence with 7 or 8  
 sacks of the sack of the sack to be of the sack  
 can no man come upon the sack but the man  
 of the sack a piece at the sack of the sack  
 of the sack or of the sack of the sack or of the sack  
 of the sack and so generally the sack is no more

but if they may not at term round a barge & other  
 that it is not possible to be transported upon the deck  
 and barge to carry the ship & one large bark  
 along the outer and the device is 100 times better  
 than the Spanish

### Chapter 4 device

As touching the language of an ship a barge  
 if your ship be given a barge then the other  
 into the water that the best place is for to enter  
 the if it is to be water that the gate is first  
 against you to defend them selves and in case  
 your men may enter the most ease and if that  
 the other ship be given of board then your ship  
 then you must lay the a barge & you may transport  
 the enemy walled to enter by the seconded. Enter  
 the first seconded or the main ground / or an  
 furthermore this must be most principally



observed if that you can any comfort or comfort  
 of any other ship or ships that doth com to  
 helpe you or your com to helpe them that you  
 doe not buye them - boord the one upon the one  
 the and the other upon the other the for then  
 the one of you shall doe the other of yours more hurt  
 10 tymes more then the enemye both w<sup>th</sup> your great  
 ordynace and also w<sup>th</sup> your smale shot and your  
 other quarrels and arrows / wherefor y<sup>e</sup> the  
 other ship be a boord all wyse - to myght the  
 the then - if that you can not can whom to buye  
 even a boord of that the then buye even a boord  
 toward the stem or toward the stern as you  
 shall see to your most advantage but in any wyse  
 to not a boord one the other the for then you  
 shall spoyle your self and <sup>your</sup> comfort in lytle matter  
 the & done

if so be that any shipe catche you a boord  
 and that you are to weake for enemye then y<sup>e</sup> so be

that you doe st the wynde and the tyde to be  
all one or yf it be calme then upon a  
foam ~~shall~~ downe an anchor and then  
at some at en your ship doo the wyde then \*  
the tyde will carry the other ship  
away from you and then yf that the wynde  
and the tyde be all one then yt is nott possible  
for the other ship to com neare you agayne  
nott untill yf the tyde doo turne to com unto  
the wyndward agayne

¶ To the Deare

And yf that any ship doo give you cause  
and yt you doe knowe yf youe as to vreate for hym  
and also althowgh that he saythe better then  
your ship then ween that he doo the same \*  
meane unto you and there is no remedy but yf  
he must needs laye you aboarde then ge you  
gone afore the wynde betwene your 2 boats  
and then at the other ship doo sette upon  
you and be readye to take you aboarde alwaye



kepe your starn onto hym and suffer hym not  
 to com papp by your side so shall you dryve  
 them to enter at your starn over you porch  
 and then sey shall enter so pammifuly for  
 they must clamber uppe by then over the  
 bowle spratt at starn a narrowe place at the  
 starn is that a few men shall be able for  
 to kepe them out and then you may be at  
 ease at home as you have room to growe  
 and wynn that so shall never be able to lay  
 upon a board but onely at your starn so that  
 the starn be well looked unto for as soon  
 as you doe see hym preast to com papp by your  
 then lose your from hym and so by that means  
 so shall not be able to com near no other place  
 but your starn

And 7 dyne

\* if any of your gate have you a board a bowle  
 your bowle and yf that you would smite  
 then lett your starn next unto your starn

A to the bill with a strong painter or rope  
 that the tross or shute may hang a little  
 under the water and then by the means of  
 the ground and the setting of both the  
 ship in the sea the anchor will rise  
 or plunge into the place of the ship  
 in the sea anchor shute and yet it will not  
 doo your own ship no great hurt for that  
 the anchor shute will be out at one  
 go and the most hurt if it may doe  
 into your own ship it will pierce but a  
 hole but for the other ship so fully  
 down upon it with the gunnery it will  
 sink together and must needs be 2 or 3  
 plunged into the place of the ship

The 8th device

If that an army of ships be layd in  
 any harbor or any place to defende any place or  
 to keep any place for the recovery of more  
 strength or to keep any place from contrary  
 and that they mean to ride there still and can



pleased them selves in such order that no  
 ship may passe by them to do  
 their exploit to passe by them or to  
 incomm a place or vittall that place  
 may be done first they shal have  
 a sufficient number of land or sea  
 as shalbe convenient and then put  
 hande of force into them as will quickly  
 be found and then when that von der  
 conveyment hym that the owner and the doer  
 shal have knowen then shal they be  
 before no farther men to give them under  
 sayle and no shoulde to save them selves  
 then to them a little before to them  
 and they the principall shal be a boorde  
 cross the hall and then they be no doubt  
 but that they shal drive them to the  
 they durst or consume them with fire and  
 then they may know that they be in mikes  
 a boorde the greater shal be they shal  
 that they shal not boate knowe to save

them selves and then planters as for that  
 you may com in and too your employe for  
 at they will be in sure a mass of the for  
 that you may do what you list for y<sup>e</sup> that  
 they draw can bene put in practice by  
 comity monomery upon that if went to  
 foretell they is no doubt but that they can  
 be dyscomfited or spawled as they say  
 that the y<sup>e</sup> before were all and all so  
 of comity monomery my<sup>e</sup> can be called  
 at the place

practiced in 18 29: 4  
 Spanish Lullado

& if, done

were that is any fault that doth pass  
 the more they see that doth carry y<sup>e</sup> some  
 principall person of estate or other some  
 quantite of treasure or other y<sup>e</sup> and can  
 carten the of the force to was them  
 then to do the employe to com by the people  
 of them y<sup>e</sup> may be the expended y<sup>e</sup> that  
 y<sup>e</sup> be nott disclosed the secret of the  
 matter as they get some great secret or the  
 of comitment that are but bad and



Lett them seme to be the admirall and to  
 entomiter his thew admirall or principall  
 Supper of four and ten men that they be  
 a boorde to sett them the one first garmyng  
 tynge a boone that will burne the great  
 terror at thet and sett a great caten  
 of pitey or tawne upon the first and  
 make a great fire under it and then  
 lett all the table a boone the good be  
 newly tawnd and also can knowe  
 tynge more as will take for pte  
 and then werdest that you are a boorde of  
 them then sett fire of it and it will  
 at the top on a fode and so they  
 consume the the supper the first  
 the men in your ship as all were  
 prepared to save them the the the  
 boote then the other supper may followe  
 the people or ease at the place and  
 then men if they doe see the the first

four taken from them then they will be dis-  
posed presently.

~ See 10 down

See principall matter for to entente  
with a drinke of Ropes by sea is for to  
have the water or gage of them for drinke  
cause and for the Ropes cause is most com-  
monly into most men & do cause for  
the saying any thing therein and in like  
manner it is good a board & Ropes in a row  
for yf you doo the one shall annoy the  
other of them and the reason that you do  
enforce now every one the more advantage  
you shall have of them for that one shall  
sunder the other the other of them

See 11 down

ff That you can any principall Ropes  
of great force of ordinance and for fear  
of the deposite before spoken of last  
any Ropes do they come a board then yf it  
be it for to prepare water strong mast



for to putt out at the porte round about the  
and to have piers framed w<sup>th</sup> boltes w<sup>ch</sup> are  
bords 20 or 30 fote from the ship and to  
from one maste unto another that no ship  
may com between them and thest framed  
maste may be w<sup>th</sup> in board untill some  
time at occasion shall be to w<sup>th</sup> them and  
to take them in and putt them out at the  
pleasure at the order of service doct & require  
The 12 device

\* Vff that it happen so that there is any  
place w<sup>ch</sup> there is an exploit to be done  
at the ordering of any place by the w<sup>ch</sup>  
men or victuals or stores at the w<sup>ch</sup> and  
there is ordynance so placed at the entrance  
that yt seemeth nott possible to passe y<sup>th</sup>  
for that the w<sup>ch</sup> framed towers so placed w<sup>ch</sup>  
the ordynance w<sup>ch</sup> by the means at a place  
yt is possible for a goodly flott to passe at  
the w<sup>ch</sup> w<sup>ch</sup> or 3 great ships w<sup>ch</sup> may

or lesse accordinge unto the discretion of  
 them that shal be charged the which manner  
 the ordinance is planted and then when  
 that you doe meane to pass the same  
 then singe a towment hymne with a quenda  
 and the of olde songs with it in the face of  
 the ordinance with all the sayde standinge  
 and then the will be done with the goldes  
 and saye all the rest of the feast with  
 the hymne at the halles past the principal  
 damages of the ordinance

Sec 13 done

Whiche if you have any ship or boate \*  
 and you doe perceive it to be laden with  
 treasure to content that when you have  
 entered your men to blow them on board  
 to prevent it doe take first the powder  
 eastern part of the purpose of the gold  
 2 or 3 pound of powder more or lesse  
 at your discretion and of the powder  
 3 or 4 little earres with about



pott for if you maye make a little  
 pease of mater fast tyeu unto upon  
 end of side of the pott and tyeu pott  
 beinge filled with powder and the mouth  
 of the pott stopp'd tight and the pott  
 of mater sett one fire tyeu neerer that  
 you doe pott the powder that the tyme  
 is made the tyeu tyeu in the pott and  
 then the fall of the pott will break  
 the pott and then the mater that  
 standeth by the pott will be sett  
 the powder one fire and so sett fire  
 one the tyme that and also the pott  
 be very necessarye to be knowne  
 neerer as much do stand tyeu for  
 to burne the powder and also of the pott  
 maye tyeu in the tyeu tyeu  
 of the tyeu to make the tyeu  
 by it means the tyeu tyeu tyeu

See 14 done

To take a ship that is full with  
 smelt first let the be sufficiently  
 ballasted and then draw at many  
 to the ad-gall the ship's burden contrary  
 unto and let all the faster be mowed  
 close and tye the that no water may  
 come into the same and then the faster  
 being layd close unto the ballast  
 stamped down close that the do not stir  
 then the ship will not smelt for any  
 leak for the faster will make the  
 ship strong and the ballast will make  
 the board for the ship the ship may be  
 drawn by the mainmast of the ship  
 up that the orloppe is under the water  
 that the ship will be tye to be

See 15 done

And furthermore for to make provision in a ship  
 that our men be not spoiled with great ordynance  
 and especially to prevent the plague of God and  
 our barrells or other things and not our men  
 to stand in a suddon at all times then do



the first & second eleven planks of a 4  
 or 5 or 6 inches thick or any other plank  
 of fine wood as will not rot or splinter  
 and then in such a convenient place under  
 the deck that it be strongly fastened  
 all a compass in the middle of the ship  
 not too near of starboard and to be  
 4 or 5 foot in width by two feet  
 of starboard and then that be plan-  
 ked with the planks to two rows of  
 starboard and that will be like the  
 in a way that the cannon light and  
 and then that some service in all the  
 over the top that you can get and fill that  
 find the only and then when that you  
 are in fight with your enemy then look  
 of what side that you are of you then the  
 men are not overtopped either a bow or the  
 ordnance or a battery of the ship may  
 onto the farther side of the planks to  
 be safe from the violence of the ordnance

or by any of them nor the King for the  
 purpose that as the King will will  
 the violence of the King and especially  
 the loss of the King or the King will  
 in the best of the King of men and  
 and not not the King of men as in  
 a word of reason, for that you have  
 any occasion to use them neither  
 that it be either for to enter the other  
 side or to defend that side that  
 you are in

It is also desired of the King  
 that the presentation of the King  
 to the King to the King of the King  
 by any Bull or other or platform  
 for the presentation of the King  
 against the King or the King and if  
 it be of any great benefit then it must  
 be done in the manner for that the  
 King of the King of the King  
 it is most impossible for to make any



[illegible]

if the firm no longer mean it is so dark  
that the more of any fasted & bullworth  
can not see them to make fast some great  
tabba with the matter and to under some  
no payd tabba not to the

1878-79 17 Dec

If it be any thinge if you would  
 bringe in to any garden or garbarie and there  
 is a barer if you have nott matter sufficient  
 to note for to bringe in yet by this meanes  
 you may bringe in over yt first prepare  
 tow great boxes or lighters and lett them be  
 made fast y<sup>e</sup> one on y<sup>e</sup> tow side and there  
 one the other side in the manner proposed  
 stronge cables or cables yt are very strong  
 and made y<sup>e</sup> lighters fast w<sup>th</sup> the ropes  
 unto the end and the lighters and  
 make them fast unto the ship and the end y<sup>e</sup>  
 better but lett nott the fast be to tight  
 but reasonable slack and then carrye  
 the ballast cleane out of the ship



into y<sup>e</sup> tow<sup>r</sup> & lighters and so you may bring  
your mowes to the barre ~~at~~ off it you must  
and take care not to touch downe and also  
you may have payde for the wege that y<sup>e</sup>  
freight dute begun for to come to you  
yt y<sup>e</sup> stayed by y<sup>e</sup> lighter wege y<sup>e</sup> m<sup>o</sup>  
ted further for y<sup>e</sup> y<sup>e</sup> can not give  
more for y<sup>e</sup> y<sup>e</sup> most lyft the ly  
the onest of the water wege y<sup>e</sup> it is  
possible for to do at long as the fast  
dute is paid and further more y<sup>e</sup> it  
it expoundes so that y<sup>e</sup> freight y<sup>e</sup>  
dute and the water wege the bar y<sup>e</sup>  
so feare that at off y<sup>e</sup> ballast do  
stand out and that some tyme not possible  
to bring your mowes y<sup>e</sup> follow place  
with the remedy is to be prepared to  
lyft your onest of the water it is  
great proportion you lyft making your  
proportion accordingly at off that the  
freight be a very great sum as the price

how great byggester accordyng to you  
 do ye cause to passe y<sup>e</sup> tyme and tyme  
 p<sup>er</sup>ward londe and strange what masse  
 or tyme and strange great tyme that  
 may be so longe that it may w<sup>ith</sup> bylde  
 of the p<sup>er</sup>se and the bylde of both the  
 byggester all at once and tyme make  
 first y<sup>e</sup> byggester fast as before declared  
 and tyme same w<sup>ith</sup> all the bylde in to  
 the byggester and tyme y<sup>e</sup> byggester byng  
 laden tyme make cartayn gale of tyme  
 both y<sup>e</sup> p<sup>er</sup>se of y<sup>e</sup> p<sup>er</sup>se and tyme put  
 the londe and strange great tyme  
 tyme both y<sup>e</sup> p<sup>er</sup>se of the p<sup>er</sup>se in p<sup>er</sup>se  
 sort y<sup>e</sup> it may be tyme both y<sup>e</sup> p<sup>er</sup>se of  
 both y<sup>e</sup> byggester and tyme y<sup>e</sup> byggester  
 byng laden and brought under the  
 longe masse and tyme and y<sup>e</sup> tyme  
 byng close w<sup>ith</sup> the byggester and all the



Supp to rest upon yf comye tymbre then  
 have on of it all the lodyng of the lychen  
 and then it will suffice so many townes  
 at the lodyng of the lychen comye  
 so by the means you may suffice any  
 doo to what proportion you list for yf  
 the be not baldest in the stone to  
 save your town then the lychen may  
 take in more baldest - lodyng into the  
 tonage if you would have it

### See 18 down staticke

\* So know the true way of any thing  
 sheweth at the way of a stone and all  
 lodyng and fynytes it is the knowe  
 all things that sheweth upon yf water  
 it is equal in weight of so much water  
 at the proportion of it that it is in the  
 water it is to say any thing it sheweth  
 howe lowe downe it is sayd thing is in the  
 water from the bryne of the water downe  
 wards yf that the was any doo made in

from and bygned in length broder &  
 depnes and that bynges filled w<sup>th</sup> water  
 the water y<sup>e</sup> equall in wayght unto that  
 tynge of bynges dymen y<sup>e</sup> the water  
 meteys more now less and then to knowe  
 the wayght of a ship then meys the  
 proportion of the mores of a ship as  
 the off it yt was all one pece of timber  
 and then looke how many foote of timber  
 it is and then way a sett scale of the  
 water of the ship dote bynges in and  
 then multiplye the wayght of that water  
 by the content of the number of foote of  
 moles of the ship and yt shall sette  
 unto you the true wayght of the ship  
 w<sup>th</sup> all for w<sup>th</sup> and give to messur  
 the moles of a ship y<sup>e</sup> do declare in the  
 second chapter of the 4 part of my  
 booke called the trysur for travellours  
 and also in the third chapter and  
 4 part of the sayd booke y<sup>e</sup> do give  
 a more easie and more pleasant way



18  
if any man may do it at home in his  
chamber by his arte statice

It is done statice

To knowe the true wayght of any thing  
it is suffice in the water to be wayght  
from the bottom unto the bryme of the water  
it is to saye to knowe howe many poundes  
will way it the wayght of the thing beinge  
knowne before that it was suffice wayght  
if it be mettall or stone or weighte severall  
be elab ther is generall for ever if it wayght  
so much in the water as it in wayght more  
then the proportion of so much water  
it is to saye foorth howe much it is mettall  
or stone it is knowne then the quantity of so  
much water then subtractinge the wayght  
of the water then it will be the true weighte  
of the thinge beinge wayght if it be mettall or stone  
it is to saye the wayght of the thinge beinge wayght  
in the water and to knowe the  
wayght of any substance it is to saye take  
off that sorte of mettall stone or other kind  
of stuffe it is suffice some maye quantity



and then way the said stuff and then put  
 of that water if the metall is in to in to  
 some board or other vessel and mark the  
 vessel at the very edge of the water round  
 a compass and then put in the said way  
 metall in to the water and if byng done  
 take out all the water if it is raised a  
 bove the marked place in the vessel and  
 read now of the water and then way the  
 water and that byng done then divide  
 the way of the great mass of metall if  
 is found in the number of the weight quantity  
 of metall if you have made your weight  
 by and then multiply the way of the  
 water by the number again and that done  
 divide or take away the way of the  
 water from the way of the metall and  
 it will be the remaine that the true way  
 of the metall is to be raised up from the  
 ground unto the byng of the water at the most  
 at least divide in the 4 and 5 and 6 parts  
 of the 1/4 part of my book take the first of the



See 20 deduce

How that I knowe it is necessary for to know  
how for to way a ship or any other thing  
is sent into the water and for that the  
labor shall not be lost in the doinge thereof  
the one knowynge howe many tonnes will  
make the said ship then when they are  
prepared so many coyes and lysters are  
not able to way a <sup>or longer</sup> ship then to raise  
even one of the said coyes or lysters to  
lift the proper ladden ship moste de-  
lightful doinge at they doe commonlye do ytt  
make the water fast unto the bed or keel  
stern yt will nott lyfte a nott a quation of  
the burden and byng more faste unto  
the ship then will nott lyfte the 10 parts  
of the burden thereof they moste prepare longer  
and longer great mast or long and strong  
great timber and to prepare to great galle-  
on or lysters of sufficient burden to lyfte  
the ship and then to lay the said longer

Timber most bote the Coyd or bystard ower  
 bote the pite of the m and the mabb the  
 fast pite the timber and not under the timber  
 so that y the timber shall beare the goll burden  
 the mabb and then to mabb fast all the  
 mabb as great wode at a lowe water and  
 then it will lyffe at or way it at y flond  
 bystard untill a full se and then goinge  
 in unto the flond awayed and lett it rest  
 and at y next lowe water to mabb the  
 wode faste a ground at y doe now at  
 large declare an the wode of the  
 part of my boote take the timber for  
 travell

To be done

at the first the flond for to waye  
 the mabb in such a place where it  
 bote with the flond then y the flond  
 to the flond at many bystard or flond  
 bynd of the flond at will waye 8 or 10



tymes y<sup>e</sup> burden o<sup>f</sup> that tynge y<sup>e</sup> is soone  
 and then to have as much tynge or  
 may be tynge ballest at comynge unto  
 o<sup>f</sup> 4 tymes y<sup>e</sup> burden or tynge o<sup>f</sup> tynge  
 o<sup>f</sup> tynge tynge y<sup>e</sup> it may be in the water  
 and then let all tynge ballest be deryd  
 in tynge all y<sup>e</sup> tynge tynge by tynge  
 addyng unto y<sup>e</sup> tynge or burden o<sup>f</sup> y<sup>e</sup>  
 tynge and then let all y<sup>e</sup> ballest be  
 tynge into y<sup>e</sup> one tynge o<sup>f</sup> tynge tynge  
 tynge tynge and then make fast tynge  
 tynge ballest o<sup>f</sup> tynge tynge unto tynge  
 tynge or tynge tynge and then tynge  
 or tynge all tynge ballest unto tynge tynge  
 and then it will way tynge tynge tynge  
 at y<sup>e</sup> it is now at tynge tynge tynge  
 o<sup>f</sup> tynge 4 part o<sup>f</sup> my boote tynge for tynge  
 for tynge tynge

Of 22 dene

At tynge tynge tynge for to make tynge  
 tynge fast unto any tynge tynge tynge

yt be southe wery deap in the watter that the  
 may com bi no part thes at a low watter  
 the it is wery stedy and dyfficulte to  
 make any ropes fast vnto it for that no man  
 may come at it to make any ropes fast vnto  
 any stronge plat thes wett the wench and  
 and the stacione doth wse to draw under  
 the watter wery we go in England then  
 not do for to cause first our dentry is more  
 colden <sup>then</sup> the and stonely the sea water is more  
 cleare then ours for a cause the watter doth  
 not ebbe and flow at ower doth so that the wass  
 of the sea is all waded in one place and ower  
 watter doth ebb and flow and y<sup>e</sup> watter southe  
 beating in one place and southe in another  
 place doth cause ower water to be alwayes thet and  
 in the manner by y<sup>e</sup> meanes of the ebbing and  
 flowing it taketh a tyde or treme to come  
 to an end wery will not suffer the watter  
 to be there and also y<sup>e</sup> wench and stacione for  
 wery of the doo draw under the watter a place of



Theffing to take away or brete in by some great  
 vessel or metal of a sufficient bynd and  
 away off and let downe unto the bottom of the bottom  
 of the vessel directly propwarded so standing  
 3 or 4 fottis upon the ground in the bottom of the  
 and beynge letten p'sently downe to the bottom  
 propwarded yf it be full of water and then away  
 yf the same will hold the brete no longer then the  
 due space unto y sayd vessel yf flatter the vessel  
 so that y may goe easily under it and then under  
 the vessel the brete then selfe in y sayd  
 the bottom of the sea yf but englyssmen be not  
 fur to do that we shold in any opinion the best  
 best way yf englyssmen may or can use to  
 make the vessel fast unto any suchen ship  
 or vessel at a still water yf it be at a low  
 water or a full sea in the myght to p'p'ar party  
 of laste being made off purp'ose to be the best  
 matter can not get in and to port by the or can  
 in the same and then the same downe with yf suchen  
 ship be so that the vessel be gone yf yf suchen ship  
 gette and so shall the vessel be more to take the



God of the Spirit and the Father having prepared the  
 heavens and the earth for us may the God  
 of the Father bring us at the Father for you may  
 see any light there in water and as a thing  
 of no man into the light of

25 Feb 23 Denver

yff it any ~~guy~~ ~~can~~ ~~be~~ ~~done~~ ~~in~~ ~~the~~ ~~water~~ \*  
 yott be found for it you cannot see wether it is water  
 Dete com in the water and then yott and take  
 no ~~guy~~ in the pott and then take a board and  
 and sett it motte of y<sup>e</sup> pott upon y<sup>e</sup> board in y<sup>e</sup>  
 botton upwarde and sett downe y<sup>e</sup> board in y<sup>e</sup>  
 pott upon it in y<sup>e</sup> ~~place~~ ~~of~~ ~~the~~ ~~fix~~ and then take  
 your earre and earthen into y<sup>e</sup> pott and yff that  
 you be nere unto y<sup>e</sup> loach you shall here y<sup>e</sup> running  
 in of the water and I warr<sup>e</sup> yf you do com y<sup>e</sup>  
 more lower you shall hear y<sup>e</sup> and the fiddie of  
 it you be y<sup>e</sup> less you shall hear y<sup>e</sup> so by y<sup>e</sup>  
 removinge of it too and from you shall hear  
 in what plat it is in y<sup>e</sup> the ~~guy~~ ~~it~~

Dec 24 Decm

At to singing this song for to the - Egypt and



to tryne for and to march for tyeget down  
unto the hill of for in such place as you shal  
at daye nott ebbe and flow water. Inoff for  
to grounde a fressh ten tye most for my  
for overpoune y<sup>e</sup> for mye is called too  
pynnyng of tye and noer at in f<sup>e</sup> anynyng  
of tye tye tye down wyl tye down tye  
y<sup>e</sup> tye wyl tye way it may be p<sup>r</sup>o and for y<sup>e</sup> tye  
for in england do nott vnto tye tye  
fressh tye tye tye some tye tye tye  
tye tye tye tye do tye tye tye it is vnto  
dand vnto for to tye tye tye and y<sup>e</sup> tye  
more east a great dore for tye tye to be tye  
tye to be tye and y<sup>e</sup> tye tye tye tye  
tye tye and for to tye tye tye do tye  
fressh tye tye tye tye tye tye tye  
tye tye and tye tye tye tye tye  
and ordynance and tye tye tye tye tye  
and tye no tye tye tye tye tye  
tye tye tye tye tye tye tye  
tye tye tye tye tye tye tye



order at your pleasure unto what proportione  
 you like and so by what means you may come  
 unto it little of any ship and ought any danger  
 for as for as you do begin to engage the ballast back  
 againe the ship will right a daye in weight  
 any further for we are to the opinion of some persons  
 is it the ship will not right againe they are  
 notably deceived and contrary to some of that  
 opinion the ballast will ship weight they are  
 notably deceived for the ballast beinge tumbled  
 at the water side but indeed the ballast would  
 ship if it the ship was wound over for the ballast  
 gauged one way and the ship is wound downe  
 over the other way then it must needs ship  
 yf it be not made fast and also it may be  
 found and I praye the ship and yet the ballast  
 not so well come by the side of the ship for that the  
 beinge in a calmes for the ship is wound one way  
 and the ballast gauged the other way so that  
 the ship but about of ballast the ship is raised  
 not more then 80 tonnes for they most wind  
 downe more then 40 tonnes to make her come

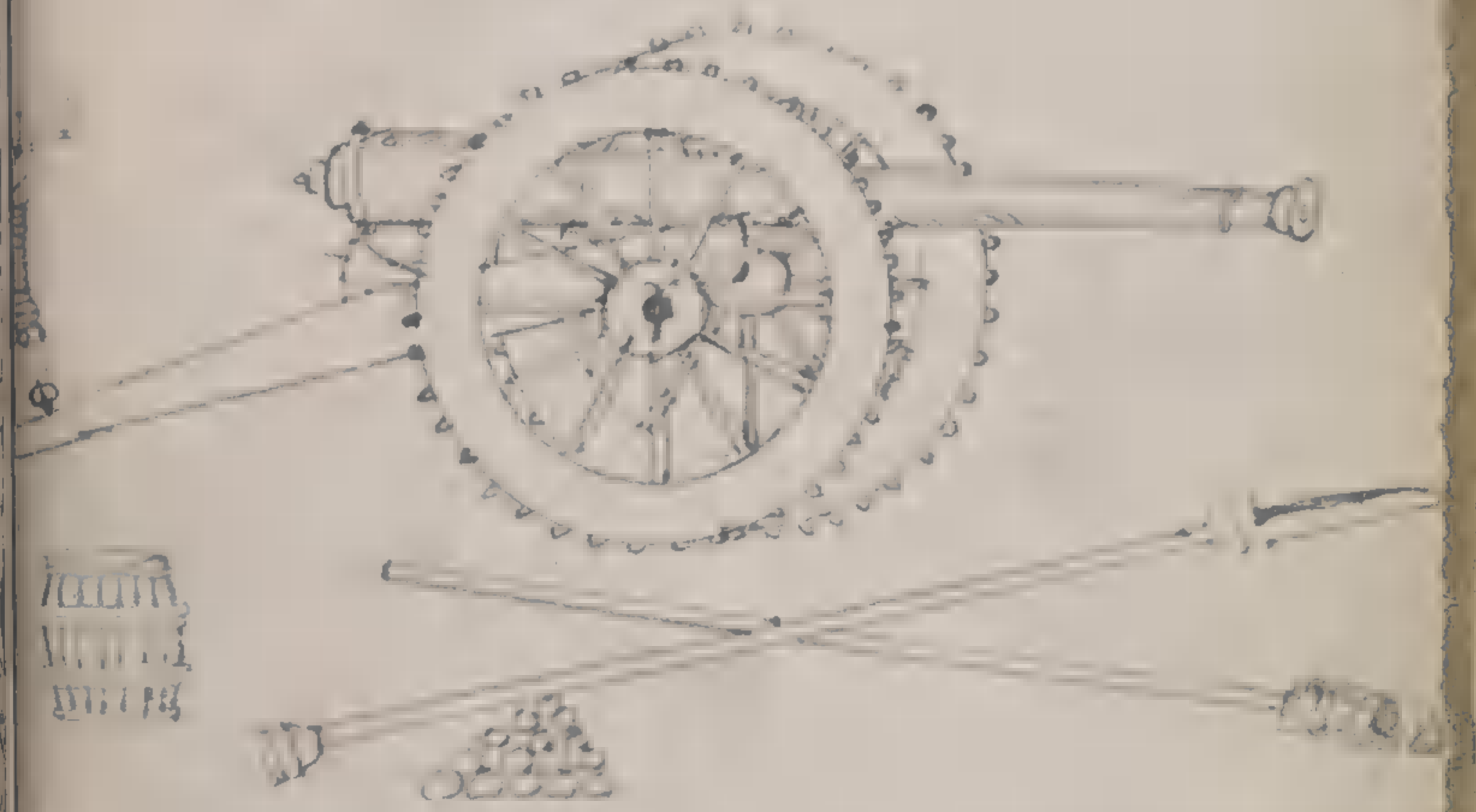


over and wege as y<sup>e</sup> ballast is but ground  
over the y<sup>e</sup> no more then it hath no more  
then the end proper wayst and then by y<sup>e</sup>  
— sande you maye bringe the over unto the  
proportion of y<sup>e</sup> best best and you maye  
the head of the ship lying at an anchor  
in y<sup>e</sup> water w<sup>th</sup> out any danger

St. James

and yf a lye land swmaster stonyn  
and nyer arope fast unto the top of y<sup>e</sup> land  
for to gett by unto y<sup>e</sup> top thes of thes thes  
he most do thes most first prepare thes  
a grene stronge wythe p<sup>r</sup> for that y<sup>e</sup> mast v<sup>e</sup>  
smote thes thes most be made a cartayn nombe  
of thes of thes of thes of thes of thes of thes  
a beadstone gate or at y<sup>e</sup> troche for thes part  
of a mast but thes must be y<sup>e</sup> turned and st<sup>r</sup>  
it yt may take thes of thes wode and nolt  
the thes thes bynt vntt w<sup>e</sup>ny wythe or p<sup>r</sup>  
other like thes lett it part yt yt a towyft  
mast land thes twang of thes and thes  
over part to god a towyft y<sup>e</sup> body of thes thes

Putte yow upon the mast on such frome if yt may  
be so that it be may be set flat upon the mast





over / and wege as y<sup>e</sup> baldestro but ground  
 over the it no more the it lute no more

Note that upon the mast in such frame it may  
 be so fast that it may be set flat upon the mast  
 and so turning backward shall raise the  
 best and when it is flat it is at the top of the  
 mast so must the body in the frame  
 have the water up the mast and the frame  
 at a solid and so by that means it may get  
 into the top of the mast for in the turning  
 backward the frame will not stop and  
 by that order it may be in any place for  
 to go up into the top of the mast and so it  
 be 60 or 70 fathoms high out a board and  
 by that the mast may be turned at the top  
 and so the mast may be turned a small  
 time fast into a narrow and so to the top  
 of the mast and then a small line or string  
 and run over the pulley and then by a small  
 line you may draw up a ladder and so the  
 front of the mast into the ladder with that  
 you can see a one way it will save your  
 time to go by

The 26th of December

the turning the frame of a gun on



[illegible]

and day ther must doe ther ween that all  
 new ordynance be laden and laded into  
 the butt or murther as ynd and wold  
 continue the same day and myghte that  
 your quadrant and look at what degree of  
 the peate lyte and then plome the myddle  
 of the mote of the peate downe into the  
 ground and then make a mark and then  
 plome the myddle of the tayle of the peate downe  
 into the ground and then in lyte maner  
 make a othe mark and then draw a right  
 line from both the markes and the line  
 to be longer by 2 yards then the 2 markes  
 and that done you may continue to sette  
 all the myght for the esquene the quadrant  
 will give you the peate the two first of the  
 markes and the line under the peate will  
 right upon the markes at 4 do more  
 at lavy diction in the 14 chapter of  
 book called the art of surveying  
 in great ordynance



Sec 28 done

for to plant ordnance in y<sup>e</sup> myght and to shew  
shewly at any maret assised do teris first set  
y<sup>e</sup> ground maret for yowr purpose and teris  
can astrolobe and range it upon yowr temple  
of y<sup>e</sup> myght and then tome y<sup>e</sup> at the day or  
undir w<sup>ch</sup> y<sup>e</sup> syftes up and down until  
yt you do set y<sup>e</sup> maret yt you do mean for to set  
at theore w<sup>ch</sup> y<sup>e</sup> syftes of y<sup>e</sup> at the day  
teris astrolobe for to range perfectly upon  
and then looke upon y<sup>e</sup> astrolobe at what degree  
yt y<sup>e</sup> at the day doth point unto and set yt  
in remembrance for that gyfte teris y<sup>e</sup> true  
syfte of the maret and then w<sup>ch</sup> y<sup>e</sup> you do  
mean for to plant yowr ordnance teris  
maret a maret and then go backward  
till a dozen or 20 foot and then set y<sup>e</sup> maret  
yt you do mean to shew at yt it be right upon  
the maret yt you can make upon the ground  
and right w<sup>ch</sup> y<sup>e</sup> maret maret an other maret



and then goe a litle further backward &  
 then wee yt a gayne and so yt. i. march if  
 you do mean for to shoot at and yt oute  
 marches if you have mayd upon the ground  
 to all 3 upon one right line by the sight of  
 your eye and yf they be nott then you may  
 amende them and sett them right and then  
 these two marches will null yt matter so yt you  
 may lay yt oute right upon yt marches and then  
 you bringynge your ordynance in the right  
 you may shoot as shoulde at 7 do more at large  
 declare in the 16 chapter of my booke called  
 the arte of shewing great ordynance

### The 29 Device

At toweling this gun for to shoot at a \*  
 shippe yt is under sayle in a river they  
 must do this they must plant the ordynance  
 against some imagined march upon the  
 fowther side of the water and then when yt  
 they doe see yt the shippe doth begynne for to  
 close the imagined march that the ordynance



by the right a gainst the good for  
 unto the ordynance and the Hall made a  
 perfect right as I do more at any other  
 in the 13 chapter of my book called the  
 of Bowtyng in great ordynance  
 the 30 verse

for to shew at any movable made upon  
 the land at any other or at footmone  
 when if you do see the same com the place your  
 ordynance upon some busse or any other  
 moveable if it is in the way of the must com  
 by or most specially at some place where  
 that there is a turning for in a turning  
 when they do take longest before they  
 be attred from the market and then it  
 is best Bowtyng of your ordynance for  
 to do any good and also upon the  
 land you may trye what if any peace  
 will doo at any market as to the length of  
 the length of the market  
 the

tes 31 deure 31

At toging tes for to knowe what bynde  
ys Holt is most meatest for to be used for  
to do shewe ma feld in stev great ordinaunce  
at canons or colleynges at a great distanc  
to sent y god from Holt as you do at a  
batter and at tes doo apertly weare ten  
to sent phallam Holt and at tes do con  
mider phallam Holt or smale bass Holt  
and at hand all maner of seourlyng Holt  
at tes do Holt or colley Holt and dyt Holt  
and some oter lere &c

tes 32 deure

yt that you have a pece of ordinaunce  
it is not truly borden yt is to say yt that  
tes com or shew do not goe aright in y  
myde of tes mottall but yt doth becom  
more y one way then y it doth tes oter  
way yt pece will never be with right  
y mottall except tes do tes best aveng  
yde y mottall is must tes best unto  
that yde y pece will tast tes Holt &c



and for remedy therof they must do this  
 first they must seeke how much they must  
 to most tithes and that being known they  
 knowen if you doe sett up the despart of the  
 piece you must put half the despart of the  
 tenth of the mottall if it is tenth only  
 one for more then it is the tenth of the  
 tenth of the despart and then you must  
 sett the despart justly upon the side and place  
 it in the mottall is most tithes and then when  
 you doe make any sort of that piece you  
 must give your toll justly upon the side  
 of the piece if it is in the mottall of the  
 piece of the piece and the despart and  
 the mottall to be all upon one right  
 line by the sight of your eye as it  
 doe more plainly than in the chapter of my  
 book called the art of drawing of great  
 ordnance.

Of the 33 device

if at any place be to be stayed of sandity  
 in a marsh ground so that it is thought



impossible for to bringe y<sup>e</sup> cannon vnto  
 yt yett not w<sup>th</sup> standynge it is possible  
 by the doore to be for to bringe the  
 cannon vnto it and all so for to place y<sup>e</sup>  
 cannon against yt all off that y<sup>e</sup> ground  
 be m<sup>uch</sup> so softer first lett them prepare  
 a flatt bottom bothe for every cannon and yf  
 it were a cannon of 8000 wayght the  
 bothe but 20 fott<sup>e</sup> long<sup>e</sup> and but 8 fott<sup>e</sup>  
 brode yf it bothe were in the water the bothe  
 will be ym w<sup>th</sup> y<sup>e</sup> cannon at one fott<sup>e</sup> d<sup>e</sup>p<sup>th</sup>  
 and byng<sup>e</sup> in to the water then it shal  
 be w<sup>th</sup> y<sup>e</sup> cannon yf it be m<sup>uch</sup> ground or out  
 it will not sinke half so much to be drawe  
 over yt byng<sup>e</sup> in y<sup>e</sup> bothe and the bothe to be  
 made of y<sup>e</sup> soft<sup>e</sup> y<sup>e</sup> no water or doore doore  
 in in and then yf the ground be so softer  
 it shal be byng<sup>e</sup> in y<sup>e</sup> bothe to make them  
 drawe it yett it may be drawe by men  
 and 80 men will drawe it and yf every  
 man doe drawe but 100 wayght the bothe  
 to be made at that com<sup>e</sup> yf y<sup>e</sup> f<sup>o</sup>rward



flattynge it it may stand a gaynst notemyng & I  
am of yt oppinyon that it is nott possible to  
make no better platform to place the ordonance  
upon then in the bott for yf y ground were more  
softe yt can syncke nofurther into yt nor  
offer murther as it will be to water & by the  
meane the may botte bringe the ordonance  
and place the ordonance in any ground how softe  
so ever it be at the pleasure

See 34 done

\* off that it expndeth so yt you can any part of  
the ordonance yf reason you can be laden for that  
the shot will nott goe from unto the powder  
yt y place yf so charged yf off the be shot the  
place will breake the then to save the powder  
enclowe yf place do the for yf it was in  
any place of snow yf that y place do breake  
the may happen a great damage at the  
first y lack of the thing reason y the shot  
wst yt and breake y loss of the value of the  
thing and tenderly the first that may  
happen by that meane yf and for to vnder



the peat yf it you cannot by no means shall  
 the peat do this first clean y<sup>e</sup> to the gold of y<sup>e</sup>  
 peat and then put in cleane water at y<sup>e</sup> to the  
 gold until yt do stand full of water and  
 then boyle up y<sup>e</sup> brack of the peat y<sup>e</sup> the  
 mount of the peat may stand dropping  
 downe wades and so lett y<sup>e</sup> water dripp  
 ougt of y<sup>e</sup> mount of y<sup>e</sup> peat a 2 or 3 daye  
 and sye & putt in more water & sye the  
 to the gold full of water and so by that means  
 y<sup>e</sup> water will sette ougt all the peat from  
 ougt of the powder in y<sup>e</sup> peat and then y<sup>e</sup>  
 dryinge downe then you may have fresh powder  
 in at the to the gold as much as may be sufficient  
 to blow out the soot yf it is in the peat and in  
 that manner you may save the peat by setting  
 some tub or vessel under the mount of the peat  
 the 35 device

yf there be trub or out of dryne b<sup>e</sup> from cloyed  
 the to the gold of your ordynance and that you  
 have no drill for to bore yt ougt upon the  
 bottom and yott you are driven to use you



order want then shall your port be the first  
 and the road but not the powder and then  
 put in the lower or smaller shot to the  
 a wade and then make a trayne of powder  
 from the powder in the port unto the mouth of the  
 piece and then give the word unto your  
 company and so give fire at the mouth of the  
 mouth of the piece and then the force of the  
 blast of the powder will blow out the  
 mayle or piece out of the touch hole but yet  
 it do not then quite the port the a blow of  
 the touch hole and then take a quantity of  
 or clay and make it like a toppe a blow of  
 the touch hole and then take oil and grease  
 shot and then pour it upon the touch hole  
 and that will be set by the shot of the  
 it when you do the port and then  
 off a fire is declared and there is no doubt  
 it will blow out the touch hole and then  
 touch hole of the piece

Deed 30 done

\* Also be it that the note for there is in the



of an army & a matter by the way of greater  
 depend and they having no better and they  
 can make provision for to put over the men  
 and now to take over the ordnance they  
 may do this first with planer and timber  
 lett them make a temple square let a plat  
 form of sufficient strength and then lett  
 them place one of the pieces of ordnance  
 upon it and then lett them prepare entry  
 faste - and lett them be made strong and  
 then take as many of these faste as may be  
 sufficient to boye or buye with the same  
 piece of ordnance and then lett these  
 faste be made fast and fixed fast into  
 the said platforme a little upon the plat  
 forme for the platforme must not be upon  
 a fast for the wayest of the piece would  
 over throwe the platforme & so they may convey  
 the ordnance over any garden or river it  
 ought to be and so they may make as many  
 of these platformes as is sufficient to pass  
 the turre and you may knowe how many



Shalle well be & or synne in any place  
of ordynance at this 5 tonne of shalle well  
carry a dode canon and 4 tonne will carry  
a dode canon and 3 tonne and less will carry  
a colubynge and so forth attynge any tyme  
more then a nyght or boote unto 1000 wayes  
of the year

Art 37 done

\* For to know whether if any year of ordynance  
be sufficiently mitted to beare <sup>heavy</sup> six pound  
then this is general if my timber beffer  
the well godd suffice at y powder dotz need  
to y morewardes y y mettayll yd m tithed  
at this at y fott round a booyse and some  
weight tithed and yff y the mettayll be m  
m tithed as much at the fyt of y fott  
then so is ponderly mitted <sup>be</sup>

Art 38 done

\* For to know whether if any year of ordynance  
may be tithed in yd m tithed any comens  
or tithed then take a steel glass in yd



Some Syntes and then to me the Lord  
 of the sun to the north of the year and so  
 you shall see into the year whether there be  
 any flaws or any comets in the year by the  
 light of the sun upon the glass & also  
 if the sun be not then take a short  
 candle and then take a long stick  
 it may not go into the bottom of the year &  
 then make a stick in the end of the  
 stick and then put the candle end in  
 the end of the stick and then put it in to the  
 mouth of the year into the bottom if you  
 see cause and so you shall see if that there  
 be any fault in the year in the manner  
 Of the 39 done

And furthermore you may break any year  
 of ordynance at the off of the year of ordynance  
 be sufficiently meatayled and not over  
 troubled flaws or any comets and also  
 having no more but for common carry  
 or carrying at the year if that it happen so if  
 you may see to your own order ordynance



and then being laden already you may  
 cross ~~you~~ them to burst at <sup>it</sup> next blowing  
 off in <sup>the</sup> manner <sup>proposed</sup> certain <sup>times</sup>  
 more of <sup>the</sup> iron may of purpose of a fother  
 longer or more at your pleasure and the point  
 to be down then and <sup>sharp</sup> & <sup>snote</sup> and at <sup>it</sup>  
 other ends to be <sup>galled</sup> and <sup>free</sup> <sup>times</sup> or  
 more and to be <sup>snote</sup> and <sup>tap</sup> <sup>ground</sup> from  
<sup>it</sup> point into <sup>it</sup> <sup>greater</sup> <sup>dam</sup> <sup>and</sup> <sup>then</sup>  
 put into <sup>it</sup> <sup>place</sup> & <sup>longer</sup> <sup>the</sup> <sup>underneath</sup>  
 the <sup>shot</sup> <sup>being</sup> <sup>down</sup> it is apt to <sup>run</sup>  
 upon <sup>it</sup> and <sup>then</sup> <sup>it</sup> <sup>place</sup> <sup>being</sup> <sup>shot</sup> off  
<sup>it</sup> <sup>shot</sup> will be <sup>split</sup> or <sup>split</sup> <sup>fast</sup> <sup>in</sup>  
 place by the means of the <sup>big</sup> <sup>and</sup> off  
<sup>it</sup> <sup>thing</sup> of <sup>iron</sup> put into the <sup>place</sup> for <sup>it</sup> <sup>it</sup>  
 Gate no room for to go by and then <sup>it</sup> <sup>power</sup>  
 blast of the powder must needs break the  
 place <sup>it</sup>

Page 40 down

At 7 do not forget <sup>it</sup> <sup>must</sup> to <sup>show</sup>  
 next order <sup>it</sup> <sup>you</sup> <sup>God</sup> <sup>give</sup> <sup>you</sup> <sup>well</sup>  
 sent of your ordinance at a battery <sup>it</sup> <sup>is</sup> to  
 say to beat down or <sup>beat</sup> <sup>down</sup> <sup>it</sup> <sup>ward</sup>



of any towne or fortie and for y<sup>e</sup> beatinge down  
 down in your graving of your towne and for  
 beatinge down of do tere after y<sup>e</sup> you can plant  
 your ordynance stee in 2 places or in 3 places  
 at the place do require / but in my opinion 2  
 places is sufficient unto one place to beat  
 down to y<sup>e</sup> entent to make a bridge and y<sup>e</sup>  
 if it be unto a collen point then it is best to  
 place your battery but in 2 places and other  
 wayes at the place do require and then in  
 y<sup>e</sup> graving of towne do tere first make a  
 you doe mean for to begin for to make y<sup>e</sup>  
 brack and beinge but at one place off your  
 ordynance give towne w<sup>th</sup> one pece to lowe  
 at the bottom of the wall and w<sup>th</sup> the next  
 pece a foote fyer myght over y<sup>e</sup> and w<sup>th</sup> the  
 third myght a foote over that and so forth unto  
 every pece at that part of y<sup>e</sup> battery saving  
 you need not give y<sup>e</sup> towne unto no pece  
 more then 3 ft<sup>er</sup> y<sup>e</sup> edge of the wall and then  
 in this manner give your towne w<sup>th</sup> your pece  
 at y<sup>e</sup> other part off your battery unto y<sup>e</sup> place  
 y<sup>e</sup> other wall maye myght against w<sup>th</sup> in  
 a fadome or more at your discretion at the



place is so that if one place may assault or beate  
 a gateway or other thing in the middle of  
 the wall and when you do mean to putt  
 them off then give fire unto them all at one  
 at once in places that they may all beate and  
 sack the wall at one time to gether and then  
 it will beat it down or sack it down the  
 faster and the bottom being beaten a way  
 the top will fall a way of it selfe and so  
 when your gate broken the wall is still  
 to make it under then give your wall at  
 your discretion upon the wall observing  
 the order before we give to be in building  
 and of the getting of fire unto the place  
 the 41 done

\* As touching in the getting of the wall  
 any part of ordinance and for to know  
 if the wall be laid a way and to know  
 how much a way the wall will be at  
 if moved it is this known look for  
 many times of quantity of the wall  
 is laid a way so many times of quantity  
 of the length of the wall is unto the mark



so many times it should a way at y<sup>e</sup> mark  
 as for ensample y<sup>e</sup> weat is 10 foot longe  
 and it is layd out y<sup>e</sup> way by de  
 y<sup>e</sup> mark in the ground of the wall and y<sup>e</sup>  
 mark is 20 score from the weat and the  
 is 6 tymes y<sup>e</sup> length of y<sup>e</sup> weat in every  
 stone and y<sup>e</sup> mark being 20 score off  
 the y<sup>e</sup> both shall be 6 tymes 20 inches  
 beside the mark and y<sup>e</sup> is 10 foot at y<sup>e</sup>  
 do more at lorde declared in y<sup>e</sup> 10 chapter  
 of my booke called y<sup>e</sup> art of fortifying in  
 great ordynance &c

Chap 42 done

Off y<sup>e</sup> any place so besyged and have no  
 ordynance for to defend them selves as  
 many tymes it in y<sup>e</sup> mydd of contrary y<sup>e</sup>  
 as with more y<sup>e</sup> frontiers there may be great  
 trouble and trouble y<sup>e</sup> as well walled y<sup>e</sup> gate  
 no ordynance and may many tymes lack dy  
 vers things with to defend them selves as  
 powder and shot & and yett they can strength  
 y<sup>e</sup> more of men to defend them selves and yett



nott w<sup>th</sup> standyng they may much profit  
 for to make both ordynance and also powder  
 and shot & all the off of they have no other  
 mettall but only lead and the is lightly in  
 no city nor towne but that it hath lead  
 good store and then they may make the  
 ordynance of lead to save the forme of  
 the good for the best in the last time the off  
 is to say to put in the more substance of the  
 mettall for the the more matter & the the more of  
 the metayll to be wounde in the best ones and  
 a half the off of the shot in peace will  
 be able to carry the ordinary charge of  
 powder and then the weight of that piece  
 will be more then double the weight of the piece  
 where is of brass or iron and in the towne  
 where it is made in note it maketh no  
 great matter for the weight for if they have  
 no great charge for to transport it very  
 farre and also they must nott send in  
 the peace to often at a time for carrying  
 of the to shot for but they may shew the



moderately and use them so if they do not  
 over heat them and for powder of  
 use of the making thereof it is commonly known  
 unto all men and there is no town but  
 if the earth in some places is good for to make  
 the powder of and as for shot it may be cast  
 of any metall therefore if they have any  
 purpose of experience they may both make  
 them ordnance and also powder and shot to  
 save the town &c

Sec 43 done

Now shall follow our doubts where is a  
 common question amongst governors all  
 that that there is no use of service in it  
 and if they apartain unto ordnance more  
 for pleasure in the playinge thereof then  
 to any other purpose as they to saye it will  
 not serve any purpose in our wars wch our  
 friends of shot both in wayes and other  
 wayes and wch our powder and wch equal  
 wayes and in the best kind of advantage



in all pointe and it is by this means  
 the shott to be shotte first for y<sup>e</sup> powder  
 prepared a pece of linnen or wollen cloth  
 and then wood of some wood a booke of  
 shott if y<sup>e</sup> shott may goe thysse in to y<sup>e</sup> pece  
 that it may goe some into the powder  
 \* In so doinge you shall shewte further then  
 it wolde do yff it yt were unrolled and  
 also yff it yone do shewte a pece shotte it  
 one kind of shott and also one way of powder  
 and the advantage in all pointe of last  
 shott shall over shewte y<sup>e</sup> first by this means  
 for that the pece is made warm and y<sup>e</sup>  
 cause the powder to fire y<sup>e</sup> better together  
 It is 44 done

\* To knoweinge the way for to layd a pece  
 at one time and to make y<sup>e</sup> pece to shewte  
 y<sup>e</sup> time of at one loading of y<sup>e</sup> pece which  
 is done in this manner first prepare  
 a pece of small match it will bepe find



or else a peat of slow turn and if it will  
 be for and then you will find out of it  
 in to the most of the peat so that if you go  
 into the back of the peat and the other  
 end to the front <sup>and</sup> then to the peat  
 but mainly so if you can not see full way  
 and then put the wade and then lay the  
 peat but mainly against the sun what off  
 powder then it had at the first and then  
 put in an outer cloth wade and if done  
 then to the end time and with the  
 the powder to the but you need not wade it  
 except you lift / and then set the end of  
 the turn a fur and it will for the first  
 and meet the peat <sup>the</sup> of and yet the  
 turned to the left and so the other of  
 of myddel most and afterward it turns  
 into the left and so the other gate  
 left of the turn and then you may  
 doo by spending it doo right and  
 maye find a left at every time  
 &c



Item 45 done

\* for to make a pease to goe off at any, howe  
or tyme appointed wetheroff ther is no person ther  
to geve fire unto y<sup>e</sup> pease y<sup>e</sup>ll ther you may  
doe and yt will goe off at any tyme appointed  
at ther first y<sup>e</sup> pease beinge charged with  
a match and prove what length of it will  
be burned in an howe and then you knowe  
ynge justly how much in length will be  
burned in a howe then accordynge unto y<sup>e</sup>  
tyme y<sup>e</sup> you wold have y<sup>e</sup> pease goe off ther  
with fire onght so much just in length as will  
be a burninge in that tyme and then at y<sup>e</sup>  
place wher yt be layd at the wold place y<sup>e</sup> pease  
beinge prynced to lay powder upon y<sup>e</sup> match  
and then y<sup>e</sup> other end to be fixed then w<sup>ch</sup>  
y<sup>e</sup> match is burned unto the powder then  
y<sup>e</sup> pease will goe off con so by this meane y<sup>e</sup>  
pease will goe off at any, howe or tyme upon  
wether y<sup>e</sup> yt be in any tyme or place

Item 46 done

for to make a pease goe off w<sup>ch</sup> you lyst  
you nor no other person beinge ther for to give



first unto it then you must doe that y<sup>e</sup> peade being  
 laden and primed then in the tordell testat  
 appear of smayll wyer of 2 or 3 futes long  
 and bend it that botte the eande may ston  
 to gether and then put that into the tordell  
 of the peade w<sup>ch</sup>en that the peade is primed  
 and the bowyt ends to ston w<sup>ch</sup>enward  
 and then put y<sup>e</sup> peade of a long string for  
 you yt and then lay a lyttel powder upon y<sup>e</sup>  
 tordell and the mark appear of mace  
 fast unto it and tell y<sup>e</sup> mace so lyght  
 and then y<sup>e</sup> other eande of the end ~~and~~ you  
 may carry w<sup>ch</sup>en you list and then w<sup>ch</sup>en  
 you wold have the peade shot of then draw  
 or pull y<sup>e</sup> line or string and it will geve  
 first unto the peade & also you may  
 put fire on powder w<sup>ch</sup> a burning glasse  
 w<sup>ch</sup>en the some synde &

Sec 47 done

for to know w<sup>ch</sup>en y<sup>e</sup> any peade of ordnance  
 is truly shot that is to say y<sup>e</sup> the roore or  
 followes dotte goe w<sup>ch</sup>en in y<sup>e</sup> myddle of



the mettall if it doth nott decaye or stand  
 more vnto if one side then vnto the other if it doth  
 vnto the other side and for to know if doth  
 tack to right staves and make them fast  
 at the <sup>one</sup> ~~end~~ <sup>end</sup> they be nott anyder asunder  
 at the one end then if they be at the other  
 end and so make fast if they do nott swaue  
 and then putt one of the staves into the  
 mouth of the pece in dar vnto the torgell and  
 then try if the pece wille be brought on every  
 side wth an iron velle and so you shall know  
 whether if they towne or followeth doth go wth  
 on the middle of the mettall and if it doth nott  
 you may know by the iron velle how much  
 if it doth differ & as I do more plainly shew  
 in the chapter of my booke called the art of  
 shooting in great ordnance

### The 48 device

for to know whether if any pece of ordnance  
 be tapered bored it is to say if it is wyder at  
 the mouth then it is tapered & in towards the  
 barre of the pece if youe shall know by



this meaneth that a rammer load upon a fast  
 of it is the true test of the mortar of the powder  
 in a place of any kind or test if it may go down  
 and then put it in the powder and if it  
 do go down into the body of the powder then  
 it is well tapered board but if it will not  
 then it is tapered board and then take a  
 lower rammer and then prove again & so  
 making dyers profit you may know how  
 much of the powder is tapered board in every place  
 and the powder may be tapered board if it may  
 be much of the worst and the powder may be tapered board  
 if it is more the worst but rather the better then  
 the worst tapered board that are used at  
 the mortar and narrow and narrow forwards  
 for the time if the powder is laid in powder and  
 does not know it may put in a shot & the shot  
 tapers it is for the powder and it may test by  
 the way and not and go down into the powder  
 and it may come to break the powder and also  
 if the shot be so small it will go down  
 into the powder then it is possible if the shot is  
 too small for the mortar of the powder if it may



I swaue my delyverance and all by y<sup>e</sup> Scott  
 will nott flye & soffre at yt woud doo  
 yff y<sup>e</sup> it woud be for y<sup>e</sup> more delyver  
 peace & nowe trespasse taxed boord p<sup>er</sup>son  
 it be more y<sup>e</sup> worse at trespasse y<sup>e</sup> at all  
 off one eyght equall trespasse in a ffeet or a  
 fute and a halff off y<sup>e</sup> wery boord and after  
 warded unto y<sup>e</sup> trespasse it narrow & narrow  
 trespasse as nott trespasse worse but rather  
 trespasse better in some respects for y<sup>e</sup> it is  
 y<sup>e</sup> stronger so y<sup>e</sup> y<sup>e</sup> Scott may god bless unto  
 trespasse for y<sup>e</sup> greatest faulte it maye  
 happen by y<sup>e</sup> means y<sup>e</sup> trespasse y<sup>e</sup> y<sup>e</sup> plat of  
 y<sup>e</sup> ladder most be y<sup>e</sup> wouder boord and at  
 so in y<sup>e</sup> strongest trespasse maye be a faulte for  
 yff y<sup>e</sup> stronge be to byge y<sup>e</sup> it will nott goe  
 unto y<sup>e</sup> bottom and yff y<sup>e</sup> it be fitt for y<sup>e</sup>  
 bottom trespasse it will be to lowe for y<sup>e</sup> rest  
 of y<sup>e</sup> boord &

Item 49 done

How to know how trespasse y<sup>e</sup> any peace y<sup>e</sup>



in mettall in every place you may know  
 yt by y<sup>e</sup> 44 downe yourt beffor as you doe  
 have weete y<sup>e</sup> poore be truly beared ge  
 and also w<sup>th</sup> y<sup>e</sup> poore to knowe beared  
 you may trye y<sup>e</sup> tereb<sup>th</sup> of y<sup>e</sup> mettall in  
 tere manner that y<sup>e</sup> tereb<sup>th</sup> of y<sup>e</sup> gold  
 mettall w<sup>th</sup> your caliper compasses upon  
 y<sup>e</sup> onest p<sup>ce</sup> of y<sup>e</sup> poore and then trye w<sup>th</sup>  
 one tere will you many tere y<sup>e</sup> it is  
 all in tereb<sup>th</sup> and then take away y<sup>e</sup> tere  
 of y<sup>e</sup> mount of y<sup>e</sup> poore from y<sup>e</sup> gold  
 tereb<sup>th</sup> of y<sup>e</sup> mettall and then take what  
 doth remaine then take y<sup>e</sup> tereb<sup>th</sup> of y<sup>e</sup> tere  
 tereb<sup>th</sup> of y<sup>e</sup> mettall of y<sup>e</sup> poore in that  
 place y<sup>e</sup> youe have me<sup>th</sup> and by tere  
 meand<sup>s</sup> you may knowe y<sup>e</sup> tereb<sup>th</sup> of  
 y<sup>e</sup> mettall in every place y<sup>e</sup> and also y<sup>e</sup>  
 yt you have no caliper compasses then  
 you may plome tere poore upon both y<sup>e</sup> p<sup>ce</sup>  
 w<sup>th</sup> a plomett of lead upon a string by laying to  
 a to foot and twiss y<sup>e</sup> bread of tere poore



Doynge after maner as be fore is used  
 and also off it be a round pece then you  
 may gude y<sup>e</sup> pece and so finde y<sup>e</sup> tene  
 of the se metall as at I da declare in  
 a chapter of my booke called the art of  
 how to make in what ordynance

See so down

See how wege y<sup>e</sup> y<sup>e</sup> Inuention and other  
 other great ordynance. Loke nott how so many  
 powderes maner y<sup>e</sup> at y<sup>e</sup> Scottis maner at  
 how y<sup>e</sup> y<sup>e</sup> and order of. ~~See y<sup>e</sup>~~  
 of ordynance y<sup>e</sup> to cast y<sup>e</sup> tene of y<sup>e</sup>  
 metall at many at the Scott is an  
 of all sort of peeces at well in Inuention  
 at in all other sort of peeces and y<sup>e</sup> it  
 may nott land y<sup>e</sup> maner of y<sup>e</sup> powder  
 the Scott maner at all maner ordynance  
 gate and <sup>the</sup> maner to cast the peeces  
 by the maner for in the doynge the  
 tene of the metall of the pece y<sup>e</sup>



but in tunc at a platforme or superficies  
 it is for double measure to be 4 tymes the quare  
 forty and at for y<sup>e</sup> sett in y<sup>e</sup> double measure of y<sup>e</sup>  
 measure yt is 8 tymes the quantity and so yt  
 is in all bodies at tubes and such other lyke  
 at 7 doe declare at length in y<sup>e</sup> tenth part of  
 my booke called the tye for tawdry lode  
 and yett you shall have the example of  
 by a sett of 3 inches girth and y<sup>e</sup> sett accorde  
 ytted more then 3 pounds and a half y<sup>e</sup> pece  
 becom a mynon and y<sup>e</sup> matter of 3 inches the  
 and now I have one other pece of y<sup>e</sup> sett of 6  
 the girth it is 6 inches girth and the sett  
 now waye more then 28 pound and now the  
 matter beinge double yt is 6 inches the  
 and the byge sett is 8 tymes the byge of y<sup>e</sup>  
 the is and y<sup>e</sup> measure double but not the  
 standing y<sup>e</sup> device it is not so much at y<sup>e</sup>  
 muste for yff it be of y<sup>e</sup> pece waye taff of  
 one length and double in measure in tawdry  
 in all places then the byge pece, Goldenay



4 times of wayst of y<sup>e</sup> lesse & am tye is  
 compass y<sup>e</sup> fanonds must nott from y<sup>e</sup> wayst  
 in powder of y<sup>e</sup> sett wayst for y<sup>e</sup> wayst of  
 of y<sup>e</sup> seat and y<sup>e</sup> wayst of y<sup>e</sup> sett must nott  
 of matter at y<sup>e</sup> doe plainly show in y<sup>e</sup> 3 chapters  
 of my booke tyled the art of / how to make an  
 great ordynance &c

Page 51 done

for to know how many fuzes or weight part  
 of any way will make adde in any part  
 of ordynance to be loaded at any matter. Now  
 an fuzer will yt is tye knowne first measure  
 of length of y<sup>e</sup> seat how many foot it is in  
 length and then double it one way and then  
 multiply it number of foot into fuzes yt  
 done at y<sup>e</sup> into 22 feet the circumference of  
 such a wheel it is to be first multiply the  
 number of fuzes of wheel the length of y<sup>e</sup> seat  
 by 22 and then what it cometh unto divide  
 it againe by 7 and yt will show y<sup>e</sup> circumference  
 of such a wheel and divide it number againe  
 by 360 and yt will show unto you how many  
 fuzes and partes of an fuzer will make



as done so as I doe knowe some many things  
 and ought to be of an such will make a  
 desire for y<sup>e</sup> length of sundry pieces in y<sup>e</sup>  
 chapters of my booke called the art of know-  
 ledge in great order name &c

¶ To go 52 down

As to the first thing I have for to write — place ordonnance  
 in a shippe there is to be considered first that  
 of y<sup>e</sup> tawards be made in such order that they  
 maye be wrought in y<sup>e</sup> manner of y<sup>e</sup> port  
 and if y<sup>e</sup> tawards be not to goe for y<sup>e</sup> that y<sup>e</sup>  
 tawards be to goe againe yt will be soe easily  
 that it will not goe that wille y<sup>e</sup> shippe for and  
 by y<sup>e</sup> manner y<sup>e</sup> word will not be sent on y<sup>e</sup>st  
 of y<sup>e</sup> port except it be of some reasonable  
 length and also yff yt y<sup>e</sup> shippe doth gette  
 that waye againe y<sup>e</sup> tawards will alwayes  
 come to so that yff yt you have any occasion  
 to make y<sup>e</sup> port if you shall not bringe y<sup>e</sup> tawards  
 off from the shippe for but if yt will come  
 to a tawards and y<sup>e</sup> tawards bringe againe yt is  
 not a small thinge under a tawards will stay yt  
 but if it will come over yt is and also yff yt  
 the tawards be for yt will cause y<sup>e</sup> word to  
 be soe y<sup>e</sup> better waye to be for y<sup>e</sup> tawards



that the troches be not so better to allow to be  
 bound in the year be placed on the very middle  
 of the foot it is to say that the year be not so  
 point blank it is at an angle from  
 the lower part of the foot be not so at the top  
 the year be not so at the top and deeper in  
 the year of the foot be not so and down at the top  
 better to make a hole for the gold ring of  
 a silver ring it is to say the year be not so  
 water for the year to you have any other  
 to point the year forward or back ward  
 of the year of the year and the year  
 form but it is the year do not be not so  
 then off of the year be not so lower part  
 of the year then you must point over the  
 mouth and off of the year be not so of the year  
 then you shall point the year of the year  
 therefore when the year be not so do not so  
 over the year be not so in a year then be not so  
 look to the year be not so do not so and  
 down to the year be not so it is very good for  
 to have the year be not so or do not so to be not so



the port for then the caregives must be made  
very low and it is very much in dyers respect  
respect for then in the country of the river  
it is apt to overtake and also in folk water  
it is apt to overtake by the ~~channel~~ <sup>channel</sup> or cutting  
of the river and forder more you have a consideration  
for the fitting of your ordynance in the river as  
the river order ordynance is best to be placed  
on the left of the river for 2 or 3 times first  
for the east of the river for by the ansand off the  
the river order the river water and also it  
of the river order order the river order off  
a wayle it you must have the river order the place  
is the easier to be taken in both for the river order  
and the wayle and also in the river order the  
river order the river order the river order  
the river order the river order the river order  
of the river order the river order the river order  
the river order the river order the river order  
will always be found of them and it  
is very good for you to have long ordynance



to be placed right out of y<sup>e</sup> stowme of y<sup>e</sup> ship  
 for <sup>for</sup> example y<sup>e</sup> one it is to be y<sup>e</sup> head must be  
 ready for ought for elst in the stowm  
 may blow by the center of the ship's stowm  
 and also y<sup>e</sup> head can be made to be very long for  
 elst it will not be very far out for the  
 worth of a ship's stowm - can be out  
 from y<sup>e</sup> deck or orlop up to the port but  
 the head may be close below but not above  
 the head also y<sup>e</sup> if you have any, the ship  
 should be to stow right forward then the  
 must be long ordynance in the stowm

the 53 done

and furthermore at towynge y<sup>e</sup> may have  
 of a ship by sea ought of one ship into an  
 other this is to be considered y<sup>e</sup> for  
 the strength of y<sup>e</sup> two ships and also the  
 strength at 7 do more at large direction  
 my the 14 chapter of my book called the  
 art of shooting of great ordynance but  
 give heed unto any matter or ship for  
 the rightness thereof this is the best way



a shere wott to stand poring at the bread  
 of the pece as yt ys commonly used amongst  
 gentlemen but to the lord right do the  
 non summe given y<sup>e</sup> pece y<sup>e</sup> right y<sup>e</sup> shere  
 the at the as you shall so cause the sum y<sup>e</sup> y<sup>e</sup>  
 at the will me to god a looff out some and then  
 lett one stand with the a lutes foot to give  
 five and then stand you right to give y<sup>e</sup> pece  
 a tot or 3 yards of the and then march the one  
 dea of y<sup>e</sup> more of y<sup>e</sup> pece and the middle of  
 the tail of the pece it by y<sup>e</sup> casting of  
 the shere or right the the march by the right  
 of one of your eyes then reffer and none  
 may be asured y<sup>e</sup> the the right the  
 the 54 depe

At dyvers times and other men can devery \*  
 some sort of fine work for the amoyance of  
 the summe yoll at hand as in the same some  
 hande & more know now hand of any good  
 shere done by it in the by sea now by land  
 but only by powder and that gate done  
 great shere for that the fore of it is myghty



and cometh w<sup>th</sup> such a tresser butt for t<sup>he</sup> o<sup>ff</sup>  
 fur w<sup>or</sup>kes it is rat<sup>er</sup> m<sup>u</sup>lt<sup>u</sup> to be w<sup>or</sup>d in  
 t<sup>he</sup> t<sup>u</sup>m of t<sup>he</sup> t<sup>u</sup>m in t<sup>he</sup> m<sup>u</sup>lt<sup>u</sup> t<sup>u</sup>m for a  
 s<sup>u</sup>re and for to m<sup>u</sup>lt<sup>u</sup> Ag<sup>o</sup> t<sup>u</sup>m of t<sup>u</sup>m do  
 Ag<sup>o</sup> p<sup>u</sup>re t<sup>u</sup>m m<sup>u</sup>lt<sup>u</sup> of a t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m  
 and t<sup>u</sup>m it is 3 t<sup>u</sup>m t<sup>u</sup>m and t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m  
 and m<sup>u</sup>lt<sup>u</sup> it t<sup>u</sup>m m<sup>u</sup>lt<sup>u</sup> at m<sup>u</sup>lt<sup>u</sup> ab<sup>u</sup> m<sup>u</sup>lt<sup>u</sup>  
 m<sup>u</sup>lt<sup>u</sup> t<sup>u</sup>m Ag<sup>o</sup> it is 3 t<sup>u</sup>m t<sup>u</sup>m and t<sup>u</sup>m t<sup>u</sup>m  
 t<sup>u</sup>m t<sup>u</sup>m at t<sup>u</sup>m t<sup>u</sup>m do t<sup>u</sup>m to t<sup>u</sup>m t<sup>u</sup>m  
 m<sup>u</sup>lt<sup>u</sup> and t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m  
 w<sup>th</sup> t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m  
 m<sup>u</sup>lt<sup>u</sup> t<sup>u</sup>m t<sup>u</sup>m and t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m  
 t<sup>u</sup>m into t<sup>u</sup>m t<sup>u</sup>m of t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m  
 t<sup>u</sup>m of t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m so t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m  
 of t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m in t<sup>u</sup>m t<sup>u</sup>m of  
 t<sup>u</sup>m t<sup>u</sup>m of t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m and all  
 m<sup>u</sup>lt<sup>u</sup> t<sup>u</sup>m t<sup>u</sup>m of t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m  
 a t<sup>u</sup>m t<sup>u</sup>m to t<sup>u</sup>m into t<sup>u</sup>m t<sup>u</sup>m and t<sup>u</sup>m t<sup>u</sup>m  
 t<sup>u</sup>m t<sup>u</sup>m or o<sup>ff</sup> t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m  
 t<sup>u</sup>m t<sup>u</sup>m of t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m  
 t<sup>u</sup>m t<sup>u</sup>m and t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m  
 t<sup>u</sup>m t<sup>u</sup>m so m<sup>u</sup>lt<sup>u</sup> ab<sup>u</sup> m<sup>u</sup>lt<sup>u</sup> of t<sup>u</sup>m ab<sup>u</sup> t<sup>u</sup>m  
 t<sup>u</sup>m and t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m t<sup>u</sup>m



all the way againe that it is in the ball that was  
 cast in the tubbinge of the mortar and then fill it  
 with good corn powder and then that being  
 filled now fill againe with some sort of soft  
 firework that will not burne to fastely and  
 and fill uppe the rest of the ball and then  
 it is perfectly finished and then in the time  
 of service either by sea or by land it is very  
 good to throw in amongst your enemyes where  
 they doe stand there as they do very good to de-  
 stroy a breake or singe others yett takes as  
 ab the to take it in the ground and to fire it and  
 then to throw it amongst your enemyes and  
 then as some of the firework is burned into  
 the powder then the ball will breake in a 1000  
 partes and every part will in a manner doe as  
 much hurt as a cannon ball. It is so that there  
 is no kind of fire work comparable to this  
 kind of ball for service in the time of need.

The 55 device

and as touching this gun for to make  
 an instrument or ingyne for to throw the  
 powder or the kind of powder it is to say  
 to know the strength or weakness thereof.

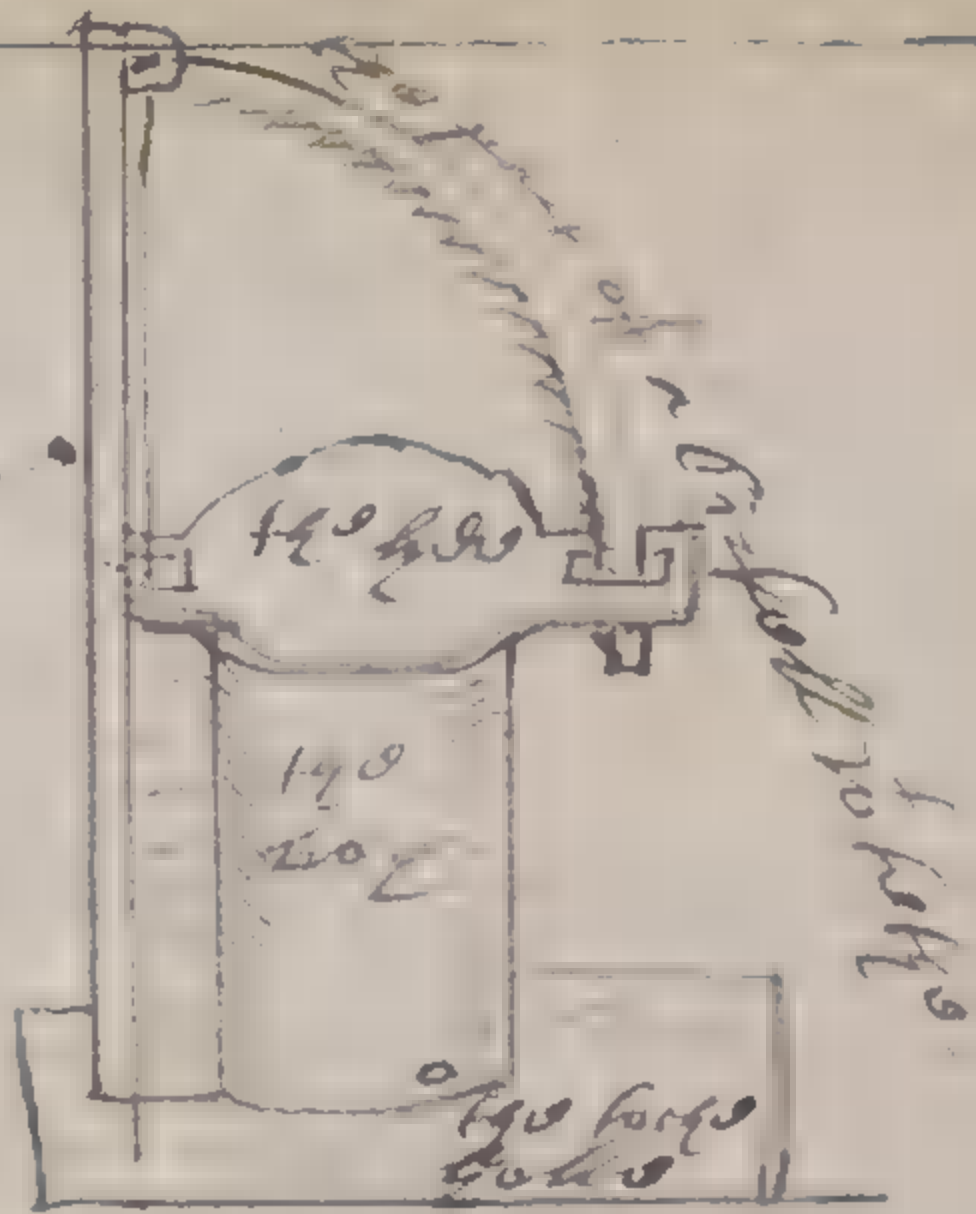


may doe yt in this maner first make in  
 mettall or iron a round be of an fure  
 and a half in bredth more or less at your  
 dyscretion and of 2 fures deape more or less  
 at your dyscretion and then lett y<sup>e</sup> be placed  
 so yt may stand upright and to have a  
 small towelle at the lower part thereof  
 and then lett y<sup>e</sup> upper most part at y<sup>e</sup> mouth  
 thereof stand in mettall or iron a lye or tower  
 yt may be w<sup>th</sup> a jointe upon y<sup>e</sup> ~~the~~ tower  
 and y<sup>e</sup> tower or lye to be of a reasonable  
 weight and y<sup>e</sup> other end of the tower or lye  
 right against y<sup>e</sup> jointe to have a square  
 hole fitted of purp<sup>os</sup> and then upon y<sup>e</sup> side  
 of y<sup>e</sup> jointe of the tower or lye y<sup>e</sup> off  
 the most be w<sup>th</sup> a ring y<sup>e</sup> must have  
 in iron or other mettall a part of a towelle  
 and y<sup>e</sup> end of y<sup>e</sup> must goe throo y<sup>e</sup> square  
 hole in the lye or tower and y<sup>e</sup> other end  
 to goe w<sup>th</sup> a p<sup>er</sup>me or jointe right over the  
 joint of y<sup>e</sup> tower or lye and the said towelle  
 through or part of a towelle to have to the



or whether byt unto y<sup>e</sup> test of a saw and y<sup>e</sup>  
 test to stonde upwards and then yt is first  
 fed and then when sever of you test to  
 prove y<sup>e</sup> strenght of powder and you having  
 of divers sorttes of powder then take som small  
 quantity of y<sup>e</sup> powder and then putt y<sup>e</sup> in to the  
 box and then sett downe y<sup>e</sup> cover or lid and  
 then give fire unto yt at the touch hole and  
 then y<sup>e</sup> powder will blowe up the cover or  
 lid and then y<sup>e</sup> test is needed to be made  
 bysted and tryed of purpose with cold water  
 the tide at y<sup>e</sup> first and yett nott staying in y<sup>e</sup>  
 blowing of yt upwards for y<sup>e</sup> test stonde  
 to stay yt if yt shall nott come downe wardes  
 and then tryng or proving of divers sortte  
 of powder you shall knowe w<sup>ch</sup> is the best  
 for powder or y<sup>e</sup> whether powder by the  
 way up of y<sup>e</sup> ledge or towards you putting  
 in the powder by way of y<sup>e</sup> and then the  
 forme of the fygure instrument in the  
 of the test & w<sup>ch</sup> is a





Page 56 device

And further more for that I have seen the  
 Invention of the of the engine & the engine  
 of ordnance in Spain and especially of the  
 ordnance of the under the death in the  
 upon it they do charge the ordnance with  
 a lead it is very troublesome for that the  
 lead must be twice filled and if twice turning  
 of the rammer is troublesome in a straight  
 row beside of the powder in  
 the engine the of the by the way grow  
 great inconvenience if it they be not  
 in the engine and further



more for to sende a pece w<sup>th</sup> cart<sup>er</sup> & t<sup>he</sup>re  
 as t<sup>he</sup>re is conveniencye in y<sup>e</sup> daye t<sup>he</sup>re of all  
 t<sup>he</sup>re t<sup>he</sup>re is as much mayst in powder in y<sup>e</sup>  
 cart<sup>er</sup> as t<sup>he</sup>re is in t<sup>he</sup>re to be laded of powder  
 yett t<sup>he</sup>re sh<sup>all</sup> nott doe y<sup>e</sup> execution as y<sup>e</sup>  
 w<sup>ould</sup>. Doe y<sup>e</sup>ff y<sup>e</sup> it was t<sup>he</sup>re w<sup>th</sup> a laded m<sup>an</sup>  
 y<sup>e</sup>ffly so farre for y<sup>e</sup> cart<sup>er</sup> w<sup>th</sup> y<sup>e</sup> powder w<sup>th</sup>  
 y<sup>e</sup> reman<sup>der</sup> for do t<sup>he</sup>re much good and y<sup>e</sup> making  
 at t<sup>he</sup>re y<sup>e</sup> dr<sup>ift</sup> of y<sup>e</sup> sh<sup>all</sup> in t<sup>he</sup>re w<sup>th</sup> y<sup>e</sup>  
 pece be so easily y<sup>e</sup> m<sup>an</sup> y<sup>e</sup> is charged w<sup>th</sup> a cart<sup>er</sup>  
 as y<sup>e</sup> w<sup>ould</sup> do y<sup>e</sup>ff y<sup>e</sup> was charged w<sup>th</sup> a laded  
 further more y<sup>e</sup>ff y<sup>e</sup> pece can am<sup>ong</sup> some  
 myt t<sup>he</sup>re may can to stay or lett y<sup>e</sup> cart<sup>er</sup>  
 in such sort y<sup>e</sup> you sh<sup>all</sup> stant gett y<sup>e</sup> cart<sup>er</sup>  
 som w<sup>th</sup> y<sup>e</sup> bottom of y<sup>e</sup> pece for y<sup>e</sup> by can y<sup>e</sup>  
 t<sup>he</sup>re cart<sup>er</sup> sh<sup>all</sup> doobell — t<sup>he</sup>re or goe away  
 by t<sup>he</sup>re way t<sup>he</sup>re you sh<sup>all</sup> can t<sup>he</sup>re much for  
 to doe to drive y<sup>e</sup> som w<sup>th</sup> y<sup>e</sup> bottom of y<sup>e</sup> pece  
 w<sup>th</sup> y<sup>e</sup> m<sup>an</sup> of y<sup>e</sup> t<sup>he</sup>re myst have gr<sup>ate</sup>  
 conveniencye to be so t<sup>he</sup>re t<sup>he</sup>re w<sup>th</sup> y<sup>e</sup> will  
 sende w<sup>th</sup> you som y<sup>e</sup> you sh<sup>all</sup> make an y<sup>e</sup>  
 y<sup>e</sup> you t<sup>he</sup>re call a charge y<sup>e</sup> sh<sup>all</sup> be t<sup>he</sup>re at one  
 t<sup>he</sup>re and done as sh<sup>all</sup> be as you sh<sup>all</sup> doe y<sup>e</sup> w<sup>th</sup> a



cartage and shall ram up of powder all at once  
 loon yt more closser then y<sup>e</sup> ladder shall w<sup>th</sup> owg<sup>st</sup>  
 y<sup>e</sup> tounyng. of y<sup>e</sup> ladder or of y<sup>e</sup> rammed and shall  
 be y<sup>e</sup> powder more closser then y<sup>e</sup> ladder shall and  
 y<sup>e</sup> macthyng t<sup>e</sup>re s<sup>t</sup>owet<sup>e</sup> at t<sup>e</sup>re first t<sup>e</sup>re  
 a ladder god sure a one at y<sup>e</sup> ordinar ladder gate  
 and then ladder y<sup>e</sup> plat sure plat at you dom<sup>e</sup>  
 all ladder but that you must have more plat  
 then y<sup>e</sup> ladder gate and then when y<sup>e</sup> you w<sup>th</sup>  
 make t<sup>e</sup>re tynne or t<sup>e</sup>re for any t<sup>e</sup>re t<sup>e</sup>re  
 then t<sup>e</sup>re y<sup>e</sup> plat room y<sup>e</sup> t<sup>e</sup>re t<sup>e</sup>re t<sup>e</sup>re  
 at may goe caslye into t<sup>e</sup>re more of y<sup>e</sup> t<sup>e</sup>re  
 then make yt fast into y<sup>e</sup> ladder god y<sup>e</sup> t<sup>e</sup>  
 fytte for t<sup>e</sup>re t<sup>e</sup>re and t<sup>e</sup>re y<sup>e</sup> plat of t<sup>e</sup>re t<sup>e</sup>re  
 of y<sup>e</sup> t<sup>e</sup>re t<sup>e</sup>re y<sup>e</sup> yt may t<sup>e</sup>re so much powder  
 as is suffy<sup>e</sup>cent to t<sup>e</sup>re y<sup>e</sup> t<sup>e</sup>re and then y<sup>e</sup> t<sup>e</sup>re  
 yt is in y<sup>e</sup> t<sup>e</sup>re t<sup>e</sup>re t<sup>e</sup>re y<sup>e</sup> t<sup>e</sup>re t<sup>e</sup>re t<sup>e</sup>re  
 of ordinar ladder god y<sup>e</sup> yt may t<sup>e</sup>re a staff  
 goe caslye t<sup>e</sup>re yt to y<sup>e</sup> t<sup>e</sup>re y<sup>e</sup> you may t<sup>e</sup>re  
 yt in and owg<sup>st</sup> at your t<sup>e</sup>re and then t<sup>e</sup>re  
 yt w<sup>th</sup> a staff then t<sup>e</sup>re upon yt staffes t<sup>e</sup>re  
 a rammed made of powder y<sup>e</sup> may goe fytte  
 and t<sup>e</sup>re in and owg<sup>st</sup> t<sup>e</sup>re y<sup>e</sup> plat of t<sup>e</sup>re



charge easily and then set the be anointed  
 small staff made fast unto the charge and  
 then it is finished and then when so ever that  
 you list to take a pece of the charge do the  
 first dra in the remored staff unto the bottom  
 of the charge and then fill the charge with powder  
 and then putt it in to the mouth of the portecoll  
 dring it by both the staves and so puttynge it into  
 the bottom of the pece and then thrust in the remor-  
 ed staff with the same and then draw back the  
 charge staff with the other end and so rowing back  
 the plate of the charge the remored staffe ought  
 all the powder and so the remored staffe putt up  
 the powder that in the pece and will take the pece  
 thence with ought the staffe of any powder &  
 staffe need but one word for all which in  
 my opinion is very necessary to be used in the  
 time of service and is best word then to doe it  
 with a ladell and yf the powder be interrupted  
 you may the staffe putt in the staffe into the  
 charge or else you may putt it into the charge  
 at your destruction / End





way all kind of merchandise wiche they do take  
 and yt is this made first preparation on stall  
 and then lett it be stunged ab a stall or ordinar  
 balland is ab a stall at y stand of the stunges  
 and then make a beam of iron or wood a bowgates  
 3 ft of a yard long more or less at your dis-  
 cretion and then ab a 2 futes of one of y  
 stundes lett yt have a pinn of iron and a clave or  
 sure a tinge at all other balland gates to gold  
 yt for by y tinge may god tere and to be pliant  
 to goe to and from laden ab all other balland gates  
 and then to have one wayest and y to have a ring  
 and then when y you wold way any thing then  
 putt y ring upon y longer part of the beam  
 and the beam to be moved ab notes and  
 at such a note the ring of y wayest being then  
 yt will way one pound and at a note of 2 pound  
 and at a note of 3 pound and so forth unto 40 or 50  
 pound wiche is a very necessary thing for you  
 to have to way the things in your and y butt  
 of small charge the forerun hereof is as followeth

This is devit of martiall affares ab  
 towring for the towns

ab towring this how far to order tereon y will \*



of any town or forte or castle yt may be the same  
 with ought orderment so that yt be not watered or  
 brought it ab the same cartayn great timber and  
 under stone or prop of wall in dypted places  
 and the doore then dyge under mynd the wall and  
 a longest the wall the at longe as you do the same  
 yt sufficient for your purpose and so under mynd  
 yt a longest untill you be more and shall have  
 under the foundation of the wall and then make  
 the same into every one of the stone or prop  
 and burne them a sinder and then as some at the  
 wall do the myse the stone or prop and the foundation  
 off the fyre dyge away the wall must needs fall  
 presently and by the means of fyre they may  
 burne the portules or gates of any castle or  
 fort yff the the be not of iron

the 59

further more they may in lyke manner breake  
 downe the walls of any castle or forte or town  
 with great stones made of purpose with great galls  
 of iron and steel some may be made to range  
 the provision and to be drawn back by the

Strength of men and so by violence to come against  
 the walled of a town and enter the same more by force.





off any trowne or faste or fasted yf may be tyeed done  
 with our right ordeynment so that yf be not watered or

strengthe of men and so by violence to come against  
 the walles of a towne and out of som may be made  
 to come out and to be come with violence  
 of a number of men against the walles and so  
 breack downe and also the houses of  
 provision is most specially to breack  
 downe the gates or bastiles of any castell or  
 towne &c

Item to come

to make a scaling ladder in such sort  
 as to be upon the ladder full of a man  
 in the first of them to be upon the wall  
 of the walles of any towne or castell or fortification  
 it be for to stand at the top of the wall or  
 handling of any other weapon what so ever it  
 be and the ladder to be made of must be made  
 in this manner first to be made of  
 cordage of sufficient strength and to be  
 made into a most comely manner made  
 a double ladder of 3 pieces of timber and  
 have it made of the best of timber that  
 may be before time and to be made of  
 the best of timber taken to be made for

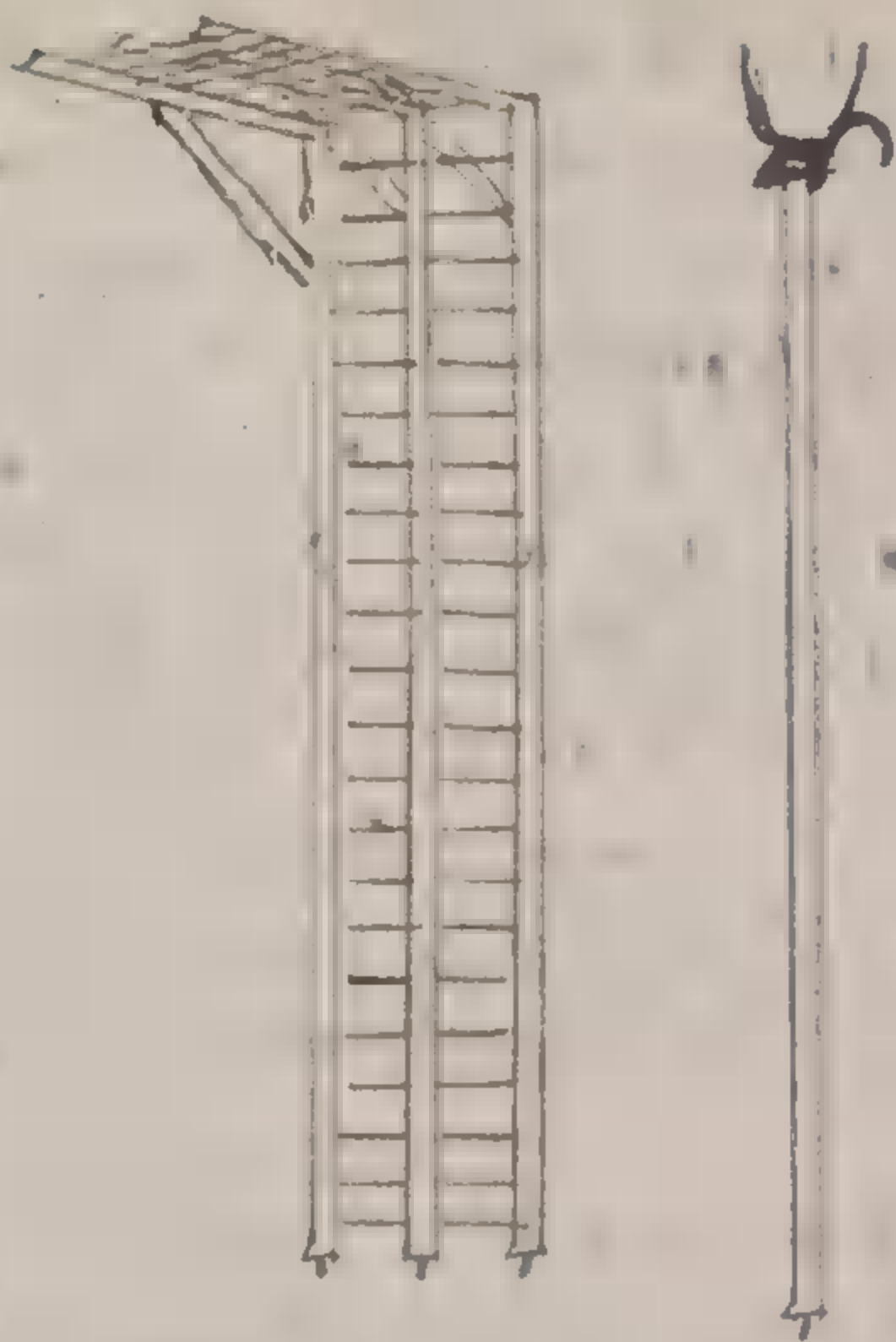


to make y<sup>e</sup> length of the ladder upon mark y<sup>e</sup>  
 length of y<sup>e</sup> ladder accordingly y<sup>e</sup> y<sup>e</sup> may stand  
 on west wall in a foot or 2 or 3 of y<sup>e</sup> edge of y<sup>e</sup>  
 top of y<sup>e</sup> wall and then for y<sup>e</sup> top of y<sup>e</sup> ladder  
 then cut 3 peaces of small timber of 6 foot  
 longer and then cut them to make fast by  
 some means at the upper end of y<sup>e</sup> ladder y<sup>e</sup>  
 it may stand like a platform upon y<sup>e</sup> top  
 of the ladder to y<sup>e</sup> wall without and then cut  
 them to 3 brace stonds or make fast underneath  
 y<sup>e</sup> platform upon y<sup>e</sup> top of y<sup>e</sup> ladder to hold the  
 platform from <sup>the</sup> ladder stand onto y<sup>e</sup> 3 peaces  
 of y<sup>e</sup> platform one the top of the ladder and  
 then to y<sup>e</sup> purpose y<sup>e</sup> men may be able to stand  
 upon y<sup>e</sup> platform to see y<sup>e</sup> top of y<sup>e</sup> ladder then  
 may be saved to save flydels of light and  
 y<sup>e</sup> are stronge such as are used to be made for y<sup>e</sup>  
 boards or platting of ships of may be so close  
 together of a man's foot cannot go between and  
 then at the lower end of the ladder to save  
 them upon y<sup>e</sup> 3 peaces of the timber of y<sup>e</sup> ladder  
 do not slip when y<sup>e</sup> y<sup>e</sup> is set into y<sup>e</sup> wall and



then y<sup>e</sup> ladder y<sup>e</sup> ffym<sup>e</sup> God and then to rase y<sup>e</sup>  
 ladder to sett it vnto y<sup>e</sup> wall they must make  
 fackes of timber that must be as longe as the  
 ladder and y<sup>e</sup> fowthe dote shal be for to rase y<sup>e</sup>  
 ladder and also to stond vnder netye plat from y<sup>e</sup>  
 y<sup>e</sup> ladder to be a stay to eache to beare the weight  
 of y<sup>e</sup> men upon the toppe of the ladder and the  
 ladder shal be rased a number of steepe they may  
 stand on the toppe of the ladder as firmly as  
 the y<sup>e</sup> do stand upon the ground of y<sup>e</sup> wall and  
 men may stand and fight upon y<sup>e</sup> toppe of euer  
 one of y<sup>e</sup> ladders and hande eke weapon for  
 they may stand 3 rancks of men upon y<sup>e</sup> plat  
 forme be y<sup>e</sup> the ladder y<sup>e</sup> as comynge w<sup>th</sup> the ladder  
 and the ladder is 20 tymes better then y<sup>e</sup> other  
 kynde of ladders in all respec<sup>t</sup>s of y<sup>e</sup> y<sup>e</sup>  
 other playne ladders be so longe then they shal  
 defend may be for <sup>there</sup> vnto and y<sup>e</sup> y<sup>e</sup> ladder be  
 to fort vnto foot y<sup>e</sup> will be so paynfull vnto  
 them y<sup>e</sup> shal rase to recover y<sup>e</sup> wall yf one man  
 may hope downe 10 men but in the kynde of  
 ladder yf y<sup>e</sup> be 3 or 4 or 5 fette to fort yet they  
 may stand and fight and one eache another and  
 beynge armed men they may go over w<sup>th</sup> the dore





See be done by the erodie  
 yf any town or fort be sett in a dry ground  
 where yf they be soe great into underrunninge they  
 then to a word yf danger theye of they may do the toll  
 then first make a vent downe in some place in  
 yf town and so dige downe under yf foundation of yf town  
 and also under yf town dyke and then when yf  
 theye have digged in yf waye yf theye then toll then  
 dige all alongest by yf town dyke as far as under  
 yf ground as they may conveniently and make

away round a borough & toward under the tower  
ground the onght side of the tower and if you should  
the tower digg onght in the digging of the tower may  
dangers the walls the that stoop and then when  
sever of the <sup>are</sup> hostages and doo down the under  
mynding the tower may make some every day  
in the said place as if it were possible for them  
to under mynd but if the shall find them and  
perceive where of the be and also if the place will  
not into them and then you may use against  
them what you will pollster if you list to annoy  
them at your pleasure and without them of the  
impossibility

Der 62. Junc. hyperboreodre

At toremy & terys for to know whether y<sup>e</sup> terys  
be any vnder myndeinge in the ground and whether  
if they be it is terys known that a latyn bason  
yea into y<sup>e</sup> place y<sup>e</sup> you do p<sup>o</sup>rtett y<sup>e</sup> vnder myndeinge  
may be and sett y<sup>e</sup> bason vpon the ground and  
then put a 5 or 6 p<sup>o</sup>rtaine into the bason and yf  
that terys be any vnder myndeinge near hand then  
at every street y<sup>e</sup> terys y<sup>e</sup> are in y<sup>e</sup> ground dotte  
not y<sup>e</sup> terys tolett y<sup>e</sup> poast will make a faine in  
p<sup>o</sup>rtaine and all so y<sup>e</sup> effect will y<sup>e</sup> more a p<sup>o</sup>rt



yf y you do buyd a sackfull of wood at eard  
 at you. I am tere setting y bason w y poase  
 upon y you shall eard every street y it may  
 in tere ground and tere is one of y best tyme  
 y may be made devised to be placed in any  
 place for to knowe wfor y under mynder be  
 my deare goinge beflow to elate y in y walle  
 under tere ground for also wfor y tere yd no  
 fure way under tere ground yett tere may make  
 dyper wntes or deape golde in y ground and tere  
 beinge placed tere tere shall eard every street  
 y undermynder dote stycke so

### Sec 63 Deare pypogreodis

At to teryng tere eard for to make a tawe  
 tere fute to place powder to give fure to blow  
 wfor any fort or bulwarde or tere wode of any  
 towne y it is tere to be done wfor y you do beginne  
 for to dyge to make yon went into tere ground  
 lett it be of some dyfance from tere place tere  
 you doe make to blow wfor and tere wfor y  
 you are entred into y ground tere do tere wfor  
 dyge towards y place but indente yt some tyme  
 one way and somtyme an owtter way tere



may be nott stayest to the end if you may  
 fortifye y<sup>e</sup> vent of y<sup>e</sup> way so stronglye that it may  
 be able to resist y<sup>e</sup> force of y<sup>e</sup> blast of y<sup>e</sup> powder  
 and y<sup>e</sup> vent of y<sup>e</sup> way to be as much as may be  
 neare unto y<sup>e</sup> place or watter if y<sup>e</sup> powder y<sup>e</sup> placed  
 and in lyke manner to dyge at deape as you may  
 into y<sup>e</sup> ground and so when y<sup>e</sup> yone have dyged  
 intill y<sup>e</sup> yone come unto y<sup>e</sup> place y<sup>e</sup> yone do  
 meane to blowe up then you may dyge somewhat  
 neare up watter if you doe nott place y<sup>e</sup> powder  
 to deape under y<sup>e</sup> ground but at a reasonable distanc  
 and then in y<sup>e</sup> watter y<sup>e</sup> yone doo place y<sup>e</sup> powder in  
 tegre lett yt be dygt open y<sup>e</sup> powder a watter  
 off 7/8 or y<sup>e</sup> fourth part then y<sup>e</sup> barrell of powder  
 to the intente y<sup>e</sup> yt myght take the vent up  
 watter for y<sup>e</sup> ayent y<sup>e</sup> y<sup>e</sup> m y<sup>e</sup> colowre place will  
 be y<sup>e</sup> station of y<sup>e</sup> lyffingge or rasinge or venting  
 of y<sup>e</sup> ground dygt over yt and then when y<sup>e</sup> you  
 have place y<sup>e</sup> powder in y<sup>e</sup> watter y<sup>e</sup> is sofflye sent  
 for 400 paces yone turne and y<sup>e</sup> more in quantite  
 y<sup>e</sup> greater shall be y<sup>e</sup> effect of y<sup>e</sup> rasinge of y<sup>e</sup>  
 lyngge then before y<sup>e</sup> yone doe rase or mace  
 up y<sup>e</sup> vent of y<sup>e</sup> way you most mace yone pro



provyse you for y<sup>e</sup> place to y<sup>e</sup> place f<sup>r</sup>om unto where  
 y<sup>e</sup> best to be done by making a trench in  
 boorded made & f<sup>r</sup>om of purpose to be of length  
 from y<sup>e</sup> mouth of y<sup>e</sup> entrance unto y<sup>e</sup> water & the  
 powder doth stand in & y<sup>e</sup> moost be placed or  
 layed all a longest y<sup>t</sup> y<sup>t</sup> may be the and the  
 provyse you putt in to y<sup>t</sup> y<sup>t</sup> must give f<sup>r</sup>om unto  
 y<sup>e</sup> powder in y<sup>e</sup> water and then runn y<sup>e</sup> way  
 that was made unto y<sup>e</sup> water & y<sup>e</sup> powder standeth  
 doth w<sup>th</sup> earth and strong timber &c and y<sup>e</sup>  
 trench of boorded shall be y<sup>e</sup> provyse of  
 y<sup>e</sup> trench w<sup>th</sup> ought any syll or master to emit  
 y<sup>t</sup> and you may make your provyse so y<sup>t</sup> you may  
 receive water of your well give f<sup>r</sup>om by a trench  
 w<sup>th</sup> a manly length all a longest in y<sup>t</sup> made off  
 purpose layed in trench in y<sup>e</sup> trench w<sup>th</sup> in  
 serpentine powder or else by a small line to go  
 w<sup>th</sup> a pulley all a longest the trench or the and  
 y<sup>e</sup> trench to past receive a great quantity of powder  
 in y<sup>e</sup> water where y<sup>e</sup> powder standeth and then when  
 y<sup>e</sup> you would f<sup>r</sup>om unto y<sup>e</sup> powder then to make y<sup>e</sup>  
 f<sup>r</sup>om fast unto y<sup>e</sup> trench and so to draw y<sup>e</sup> f<sup>r</sup>om unto  
 unto y<sup>e</sup> powder unto y<sup>t</sup> by a trench &c







one the other side in dentyng & way in the  
 ground and woth to goe right upon the place  
 assigned and so by the measure knowynge what  
 quantity of measure you have you first one  
 way and then another way in the ground and  
 by what proportion in the way both by the  
 direction of the way and the quantity of measure  
 in the way you may goe directly unto the place  
 assigned in the ground and you may mark your  
 platte firmlye how if you will do yt before if  
 you doe enter into the ground accordynge unto the  
 distance of the place assigned and also yt may  
 easeen so yt wyl be if you are an undermyndynge  
 in the ground and have purpose to goe so many  
 fott and way and so many fott an other way  
 and if you have made your platte so and yet the  
 way be full of impediments or lotts in the ground  
 if you cannot do yt accordynge unto your first  
 meaning and then you may make yt and all  
 the yt in your platte accordynge unto the way if you  
 may goe and so to com unto the place assigned  
 and so you may alter your platte accordynge unto the



place if you may goe intoe of y<sup>e</sup> place doo atayned  
to come into y<sup>e</sup> place assigned to make y<sup>e</sup> matter  
in the ground to place y<sup>e</sup> powder in y<sup>t</sup> &c

To go to the deere

Y<sup>f</sup> y<sup>t</sup> person so y<sup>t</sup> the y<sup>t</sup> gate opened a  
towne and y<sup>t</sup> the y<sup>t</sup> continue to batter the  
myght and so y<sup>t</sup> the y<sup>t</sup> can nott make up the  
breach in y<sup>e</sup> myght the y<sup>t</sup> most way is for to  
make y<sup>t</sup> place defensible in the manner with  
the y<sup>t</sup> cast a dyke or trench the y<sup>t</sup> on the y<sup>t</sup>  
of the wall all along y<sup>e</sup> breach y<sup>t</sup> against  
y<sup>t</sup> of a y<sup>t</sup> front dyke and of the y<sup>t</sup> to be  
defensible and the y<sup>t</sup> the y<sup>t</sup> place the y<sup>t</sup>  
ordnance against y<sup>e</sup> breach and also from the y<sup>t</sup>  
in the y<sup>t</sup> manner to the y<sup>t</sup> the y<sup>t</sup> on y<sup>e</sup>  
y<sup>t</sup> of y<sup>e</sup> wall &c

To go to the deere

I doe nott require y<sup>t</sup> the y<sup>t</sup> to be so  
of the y<sup>t</sup> to knowe y<sup>t</sup> any dyke or trench be  
cast y<sup>t</sup> y<sup>t</sup> the y<sup>t</sup> be made so many foot wide  
in the y<sup>t</sup> and so many foot wide in the  
bottom and so many foot deep y<sup>t</sup> y<sup>t</sup> you would  
have a wall or rampre made of the y<sup>t</sup> y<sup>t</sup>



you wold have it so many foott brode in y<sup>e</sup> bottom  
 and so many foott brod on top then to knowe  
 justly howe many foott ere y<sup>e</sup> wall will be  
 of that stuffe wher is covered on y<sup>e</sup> top of the dyke  
 w<sup>ch</sup> y<sup>e</sup> earth is p<sup>re</sup>pared or else for to knowe yf  
 y<sup>e</sup> you wold have y<sup>e</sup> wall made so high then for to  
 knowe w<sup>ch</sup> shall be the end yf it wold beand being made  
 of that stuffe wher is covered on y<sup>e</sup> top of the dyke  
 for to knowe y<sup>e</sup> howe this first accouring unto the  
 w<sup>ch</sup> dyke in y<sup>e</sup> byme and in the bottom with  
 botte the number to gether and that done then take  
 that number and then accouring unto y<sup>e</sup> depth  
 y<sup>e</sup> you mean to make y<sup>e</sup> dyke then multiply the two  
 numbers to gether y<sup>e</sup> is to say y<sup>e</sup> number of foott of y<sup>e</sup>  
 depth of the dyke and y<sup>e</sup> breyde thevost at the byme  
 and y<sup>e</sup> bottom being added botte to gether that  
 number then yf you wold knowe howe much y<sup>e</sup> it  
 wold make y<sup>e</sup> wall at soch a tye then at y<sup>e</sup> bottom  
 and y<sup>e</sup> top then add thevost 2 numbers botte to gether  
 and take that y<sup>e</sup> and draw y<sup>e</sup> on y<sup>e</sup> top of y<sup>e</sup> number  
 of the dyke so multiplye and that number shall  
 shew y<sup>e</sup> in y<sup>e</sup> quantite byme shall be y<sup>e</sup> y<sup>e</sup> of  
 the wall and fowder more yf y<sup>e</sup> you wold have



the wall so many foot high and would know some  
 many foot high if it would be off of stiff ten double  
 if it is ought of the number of the number of the dyce so  
 multiplied and the weight should be in the quantity for  
 the wall the thickness of the wall in the middle of  
 the wall you know if you may use the thickness of the  
 bottom and the top at your distance you can find for  
 the better understanding of the matter you shall have  
 the example by a dyce of 7 foot high and made of  
 20 foot wide at the bottom and 12 foot wide in the  
 bottom and 10 foot deep and 7 foot high a wall  
 made of that stuff to be 16 foot at the bottom of the wall  
 and 8 foot at the top of the wall now my desire  
 is to show you many foot high if it would be off  
 that stuff if it is ought of the dyce weight  
 the wall is settled and then you shall know the  
 the first and the width of the bottom and the bottom  
 of the dyce is 20 foot and it is 20 foot for the bottom  
 and 12 foot for the bottom and the to numbers to get the  
 the 32 foot then take the square of number 2  
 it is 16 and then the depth of the dyce being 10 foot  
 then multiply the ten to numbers to get the 16 to  
 for 16 times 16 and it makes 256 and now I would  
 have the wall 16 foot wide at the bottom and 8 foot



at the top and the bottom to numbers added together  
 making 24 and each of it 12 foot and now my  
 desire is to know how many foot of the wall will  
 be left and to know if 100 tons of stone will  
 by 12 weight be the thickness of the wall in my mind  
 and that number of stone in the quantity of stone  
 of the wall and the stone will be 13 foot  
 and 4 inches just so if you may conceive of a dyke  
 being 20 foot at the top and 12 foot  
 in the bottom and 10 <sup>foot</sup> deep will make a wall of 16  
 foot at the bottom and 8 foot on the top and 13 foot  
 and  $\frac{1}{2}$  in the middle and furthermore by the example  
 of that dyke and I note that the wall is 15 foot high  
 my desire is to know how much of the wall will  
 be of that stone required of the above said number  
 of 160 by 15 and then the wall will stand in the quantity  
 of 10 and 10 will remain over so that you may  
 conclude if the wall of 15 foot high will be 10 foot  
 thick and 8 inches and then you may at your desire  
 you may make it of what breadth in the bottom that  
 you list and work what if you do build it in  
 the bottom it will be at the top of the wall



herfor yf yf you doe make yt 15 foot at the bottom  
yt will be but 6 foot at the top at the top &

See 67 down

As touching yf yf entering at the of any army or  
the yf entering of a town the must observe the  
order of the may flanked yf the yf the yf the  
most place of the may flanked yf more stronger  
is yf placed so in the yf and also most yf the  
to flanked yf the yf or the yf pointed and also yf  
may be or the yf the yf the yf the yf the yf the  
propell to pass in and the yf and also the yf the  
is to be observed in yf the yf of any fortification  
at the yf the yf the yf the yf the yf the yf the  
for yf yf yt be so yf the yf the yf the yf the yf the  
wall yf the yf the yf the yf the yf the yf the yf the  
monly all the yf the yf the yf the yf the yf the yf the  
the yf the yf the yf the yf the yf the yf the yf the  
of the yf the yf the yf the yf the yf the yf the yf the  
flanked yf the yf the yf the yf the yf the yf the yf the  
for to show the yf the yf the yf the yf the yf the yf the  
ynde of fortification and the yf the yf the yf the yf the  
number of the yf the yf the yf the yf the yf the yf the  
of the yf the yf the yf the yf the yf the yf the yf the



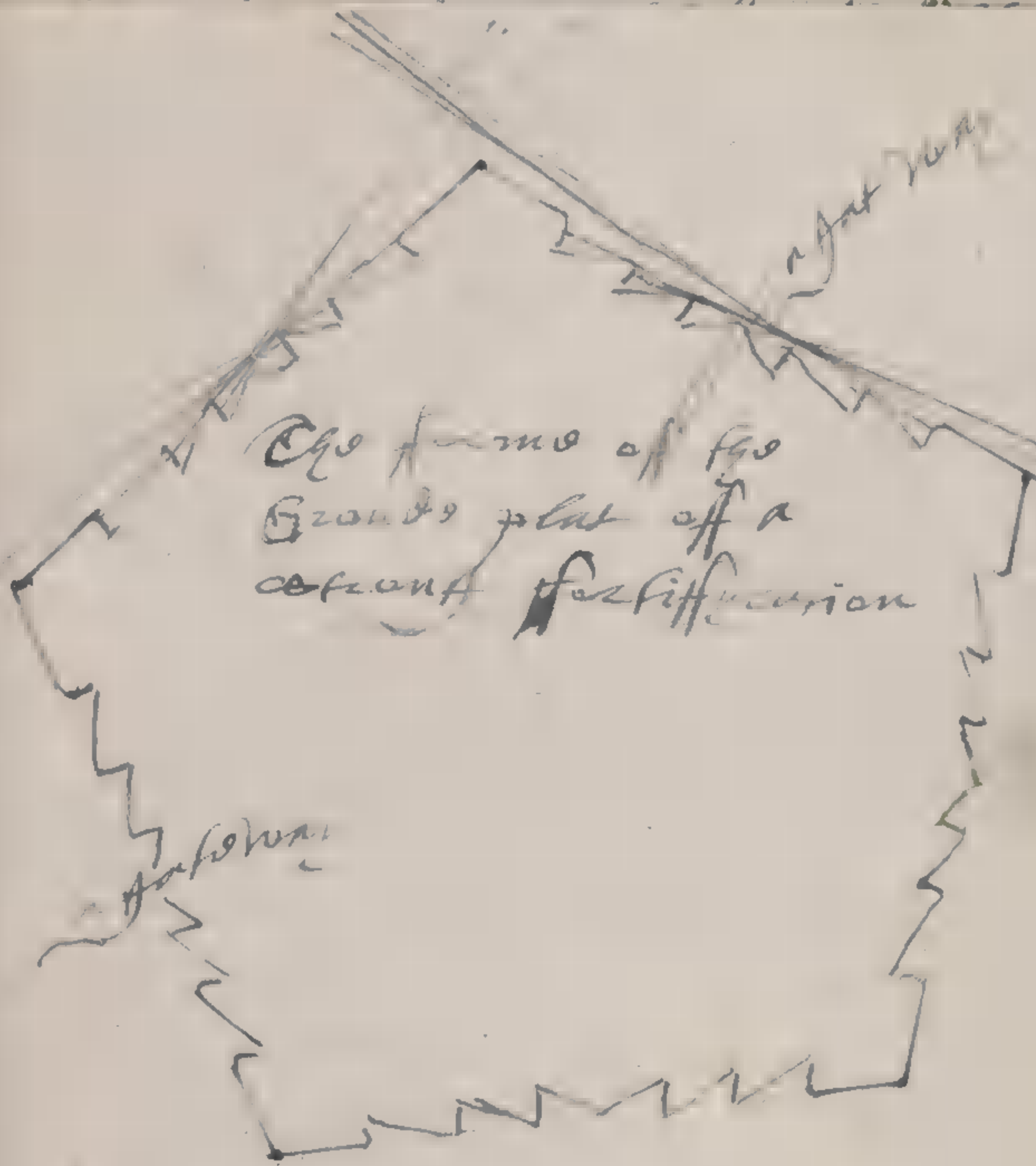
in either town or fort at your direction as need  
Dotes requires at 4 square or 5 square or 6  
square or 7 or 8 square at need shall require  
accordinge unto the bynde of the place

Item of 8 dimes

At takinge this care for to knowe the length  
of any Slope by the at many times of gate  
any square side or angle to knowe the length from  
corner unto corner whether it be to knowe the  
length of a playne ladder if yd to sett against  
an upryght wall and to be sett so many footes  
from the wall at the foot or whether it be for  
to knowe by any dyce or compass of earth if yd  
it be so many footes high and the wall or compass of  
earth if footes or bottom to stand so many footes high  
on the top or all by it yd be a square  
angle in any thinge to knowe what the distance  
betweene corner unto corner at any gate or downe or what  
so ever if yd be if gate a square turne it yd be  
knowne first measure of one side and then the  
other side and then multiplye each of them severally  
in them selves and if done adde both of your numbers  
together and that sume then extractet the square



Roots of and it will grow into you the same  
 length from the one corner into the other at four



The 69 door



of either town or fort at your discretion as well  
Duty requires at 4 square or 5 square or 6

in the field and if done the duty of your men  
to get the and that done then extract the square



Root trees of and it will grow into you the same  
 length from the one corner into the other at four  
 for example the tree is a ramp of earth of 25  
 foot end by a stone line and the foot or bottom  
 of it is 5 foot finders out the top of the tree is now  
 my desire is to know how many foot of ladder  
 good as the top will justly from the foot  
 into the bottom to be set the same as was before  
 at the foot and the top then do the first mill  
 the length of the ramp or wall of earth at  
 the 15 times is and the measure 22 5 and then  
 the length in at the top being 5 foot and 5 foot  
 times 5 ~~and then 22 5~~ 25 then with the number  
 into the other number and 22 5 and 25 measure  
 250 and then to extract the root and it will be 16  
 foot each way 2 inches  $\frac{1}{2}$  and by this means  
 you may know the length of any tree from  
 corner into corner without so much as it be <sup>at</sup> the  
 do more at large declare in the ~~chapter of the~~  
 tenth part of my book called the true way for  
 surveyors

The end of the world



And further more yff if you doe knowe the length of  
 any lengthe from towne unto towne and do but  
 knowe the length of one of y<sup>e</sup> sides you may knowe  
 the length of y<sup>e</sup> other side at the water if yt  
 be the rampers of a wall or a line stretched from  
 the brym of a drye unto y<sup>e</sup> toppe of a wall that  
 lengthe knowen and other waye y<sup>e</sup> lengthe or  
 waye yt teneth from you yff you may com to  
 the m<sup>id</sup>le of 2 sides you may knowe the lengthe  
 how so ever yt be and yf knowen the side  
 moltrally the lengthe of y<sup>e</sup> slope lynde yf yt be  
 from towne unto towne surely yf being knowen  
 then moltrally the other knowen side surely  
 in lyt<sup>le</sup> maner and then drawe or solve the  
 number from the byges number and yf nom ber  
 wylle remanynge extract the root therof  
 that will give unto you the lengthe of y<sup>e</sup> other  
 unknown side as for example the by  
 rampers or wall of earth of 12 foott from the  
 foott unto the toppe at yt was lymned from  
 me wardes upon the side and the foott therof  
 was 6 foott firste yf onyft then the toppe and



my desire is to knowe the true height of the  
 wall or rampire howe many foot it is from  
 the ground unto the toppe in the myddell  
 the toppe the toppe the toppe the toppe to be flat  
 then doe the toppe the toppe 12 foot and 12 foot  
 times 12 yb 144 and the toppe doth leave  
 6 foot frome me marked and 6 times 6 yb  
 36 and if nomber beynge drawn from 144  
 the remayneth 108 and then extractynge  
 square Root of y nomber and if yb 10 and  $\frac{2}{5}$   
 if y you may contented y wall to be 10  
 foot high and now 5 inches 60 and by the  
 order you may knowe y length of any place  
 byme at 700 funder knowe you in my book  
 called the true for travelers &c //

The 70 device

It is my desire that I do nott think it unmete  
 to be spoken of howe for to save men on  
 a plat frome water they are surrounded off  
 by shotte as yt may be seen in dyvers places  
 one a platforme by y sea side or on a platforme



one of the top of the wall of any town or m-  
 sure of the place where it is written  
 to be the same one of the same wall as  
 great ordinance of the place and of the  
 opened or of the same of the place of the same  
 no longer to the same term but the same  
 the date or may be the same from the same  
 more term to present of the same of the same  
 for to the same cause and to the same place  
 all along and so to the same term of the same  
 cause and term when of the same be the same  
 term of the same of the same to the same of the same  
 edge of the same and so to the same of the same  
 and the same of the same of the same and so  
 by the same of the same the same set no mark to  
 the same at the same of the same the same of the same  
 at the same of the same at the same of the same of the same  
 more to the same but if the same do not the same  
 of the same of the same do the same to the same the same  
 can not tell where for to the same of the same  
 the same and also of the same not the same the same  
 sufficient to be the same upon the same of the same  
 of a town where at more than any great







the sayd best way is to be done by the  
 way of the romans tower & the sayd best  
 tower upon the sayd tower to make a  
 wall to defend them selves against the  
 which was by tarmint trowels made off  
 brass layed in the wall and at the same  
 of every 2 or 3 myles they had a gate where  
 was both watch and ward and so by the  
 means where so ever if they had any occasion  
 to send any warning unto them of the  
 defense of the place they could go into what  
 place if they pleased in what any assault  
 upon them were suffered to come if they  
 of brass were if they were and what first they  
 had found and what number if they were of the  
 and by the means they would have word  
 what was done and what was to be done  
 20 or 30 myles in one hour space & therefore  
 first in my opinion this is a very good device  
 for to be used in the walls of any town or  
 warr to be layed all alongest the wall of the  
 town from the one gate to the other gate where



7  
It shal myght be warninge given from any  
place unto an other upon the shew of

Item 72 done

As touching this come to convey letters secretly  
and not to be found and knowne where as this is  
gave a way of layed and gave secretly made upon  
every person if they pass to and from for letters  
you may do this you havinge some dogg or some  
bade spannell it will not be lost from you  
and some dogge will not com unto him to be taken  
nor purpose a collar for him if may be followe  
the meane not to be a collar to locke unto to be  
worth nothinge and in that collar you may  
convey your letters without any suspecton  
for the man may be forced and yett the dogge  
will followe his master cominge to and from  
and no person can tell neyther dogge it is and  
will as some take the dogge to be some of their  
owne companye at otherwise &c //

Item 73 done

An other way to convey letters secretly & to  
make the letters and wordes to be written  
together and then they maye be some kind



of bootes to be made of mettall with a clasp  
 to be rounde and longe so yt may goe into the  
 mouth of a bottell and then y<sup>e</sup> letter, beinge sent  
 in to y<sup>e</sup> small boe and y<sup>e</sup> boe covered and made  
 close yf no letter came soe in to yt then sent yt  
 boote in to the bottell and then you may fill it  
 with wyne or such other lyt and send yf by  
 any reason yt you wold have them comen into  
 and yt will not lightly be suspected &c  
 Recd 74 done

- \* And furthermore yf that you have any gylt written  
 of letters or bootes yf you wold convey secretly  
 and wold not mete with them nor have them  
 founde nor known and there is a waye yet layd  
 for you to sende them doo this first prepare  
 a small or small boote yf will be made tight  
 of sufficient lynes to fasten these letters or bootes  
 and then take them in a ~~small~~ <sup>piece</sup> cloth and then  
 take of the end of it and putt them in to the small  
 boote and then putt in y<sup>e</sup> end of it againe and  
 close it up close againe and make it tight  
 no letter may comen in to it and then take a



great basket at a butte or a pipe or a cogsford  
 at your discretion and then take onght y<sup>e</sup> gods  
 of it and then with my small barrel w<sup>th</sup> letters  
 and so put my god of the grette basket againe  
 and so make it tyeft againe and then you may  
 fille y<sup>e</sup> basket w<sup>th</sup> wyne or w<sup>th</sup> strength so ever  
 you list be, and then y<sup>e</sup> basket or great of wyne  
 change or monger other yt may be transported  
 from place to place at your discretion and now  
 to be known what is in it no other wyse then  
 the other basket and it may be tasted at any of  
 y<sup>e</sup> gods or fides in every place at y<sup>e</sup> other w<sup>th</sup> be  
 as in all counties and then shall be nothing se  
 nor known and also yt is very good for you to  
 have the lytel barrel in a great of words w<sup>th</sup> be  
 that and then it will <sup>not</sup> knowe my w<sup>th</sup> be to be  
 hard in y<sup>e</sup> removinge of it. too and from and then  
 you may transport it other by water or by land  
 and it never be suspected.

It is done

And further more then may be such meant and \*  
 if you may knowe the mynd of your friends  
 allgaff if you may nott com at the same nor  
 send unto them by the form of the same by the



in the myght at this you havinge comforted or  
 or tallected to gete it yf the do how you so many  
 lyghtes and standynge in such a fashion or from  
 it is synnersfullye such a tinge is done by the  
 enemye or else yf you must do somethinge and in  
 such a forme yf it synnersfullye such a tinge is  
 accordynge unto yf talke yf you have a good  
 upon the and furthermore you may devise by  
 forme ~~of letters in the myght~~ in the myght to cause  
 your friends to write a letter by and so by  
 that meane to declare your full mynde unto  
 your friends the this you havinge a good reason  
 seeme yf yf the be so many lyghtes and stand  
 after such a fashion yf it synnersfullye to write  
 A and yf so many lyghtes and in such a forme  
 then to write B and so forth unto you the  
 number of letters accordynge unto the forme  
 and number of the lyghtes so given and the  
 at the ende of every worde so written to showe  
 but one lyght for a space for yf the end of a word  
 the until yf you have founde and further more  
 in the manner by lyghtes in the myght is yf most  
 speedest tyme to have any tinge knowne yf  
 may be to give warninge unto any contrary



to be in ardent upon y<sup>e</sup> p<sup>r</sup>ovide ab<sup>o</sup> me p<sup>r</sup>ovide  
 in englonde doe p<sup>r</sup>ovide for y<sup>e</sup> p<sup>r</sup>ovide by y<sup>e</sup>  
 p<sup>r</sup>ovide of y<sup>e</sup> p<sup>r</sup>ovide & p<sup>r</sup>ovide p<sup>r</sup>ovide  
 it is w<sup>r</sup>ite unto a p<sup>r</sup>ovide p<sup>r</sup>ovide p<sup>r</sup>ovide  
 y<sup>e</sup> p<sup>r</sup>ovide of p<sup>r</sup>ovide p<sup>r</sup>ovide upon the p<sup>r</sup>ovide  
 to the p<sup>r</sup>ovide and p<sup>r</sup>ovide w<sup>r</sup>ite y<sup>e</sup> p<sup>r</sup>ovide of  
 in p<sup>r</sup>ovide p<sup>r</sup>ovide y<sup>e</sup> p<sup>r</sup>ovide p<sup>r</sup>ovide p<sup>r</sup>ovide  
 ab<sup>o</sup> the p<sup>r</sup>ovide p<sup>r</sup>ovide p<sup>r</sup>ovide all at longest y<sup>e</sup> p<sup>r</sup>ovide  
 y<sup>e</sup> p<sup>r</sup>ovide do the p<sup>r</sup>ovide in and at y<sup>e</sup> p<sup>r</sup>ovide p<sup>r</sup>ovide  
 p<sup>r</sup>ovide or in the p<sup>r</sup>ovide p<sup>r</sup>ovide is one of the p<sup>r</sup>ovide  
 p<sup>r</sup>ovide p<sup>r</sup>ovide and y<sup>e</sup> p<sup>r</sup>ovide p<sup>r</sup>ovide amongst  
 the p<sup>r</sup>ovide y<sup>e</sup> p<sup>r</sup>ovide p<sup>r</sup>ovide y<sup>e</sup> p<sup>r</sup>ovide of the p<sup>r</sup>ovide  
 p<sup>r</sup>ovide or p<sup>r</sup>ovide p<sup>r</sup>ovide p<sup>r</sup>ovide by y<sup>e</sup> p<sup>r</sup>ovide y<sup>e</sup> p<sup>r</sup>ovide  
 and p<sup>r</sup>ovide p<sup>r</sup>ovide of p<sup>r</sup>ovide y<sup>e</sup> p<sup>r</sup>ovide of y<sup>e</sup> p<sup>r</sup>ovide  
 p<sup>r</sup>ovide and p<sup>r</sup>ovide y<sup>e</sup> p<sup>r</sup>ovide p<sup>r</sup>ovide p<sup>r</sup>ovide or by y<sup>e</sup>  
 a p<sup>r</sup>ovide and p<sup>r</sup>ovide y<sup>e</sup> p<sup>r</sup>ovide p<sup>r</sup>ovide p<sup>r</sup>ovide  
 p<sup>r</sup>ovide by y<sup>e</sup> p<sup>r</sup>ovide p<sup>r</sup>ovide of y<sup>e</sup> p<sup>r</sup>ovide of y<sup>e</sup> p<sup>r</sup>ovide  
 y<sup>e</sup> p<sup>r</sup>ovide p<sup>r</sup>ovide p<sup>r</sup>ovide p<sup>r</sup>ovide p<sup>r</sup>ovide p<sup>r</sup>ovide and  
 by the p<sup>r</sup>ovide of the p<sup>r</sup>ovide p<sup>r</sup>ovide p<sup>r</sup>ovide will know  
 p<sup>r</sup>ovide done 100 p<sup>r</sup>ovide from p<sup>r</sup>ovide all alongst  
 the p<sup>r</sup>ovide in one p<sup>r</sup>ovide for p<sup>r</sup>ovide y<sup>e</sup> p<sup>r</sup>ovide of y<sup>e</sup> p<sup>r</sup>ovide  
 p<sup>r</sup>ovide p<sup>r</sup>ovide of the p<sup>r</sup>ovide p<sup>r</sup>ovide p<sup>r</sup>ovide



The 76<sup>th</sup> of <sup>down</sup> martiall affayres by lord  
~~et al~~ <sup>et al</sup> ~~the~~ <sup>the</sup> ~~most~~ <sup>most</sup> ~~of~~ <sup>of</sup>  
 As to the martiall affayres I have not found  
 in great experience thereof I am more bold  
 then wise for to say any thinge thereof considering  
 the great number of wyse and discreti<sup>on</sup> and  
 valiant gentill men and souldiers y<sup>e</sup> hath by  
 trayned us of no smalle tyme in these affayres  
 y<sup>e</sup> I beinge so simple and unde<sup>r</sup>stande in any  
 respect muche thereof but yett not with-  
 dyng<sup>e</sup> they may make the less a contri-  
 buti<sup>on</sup> and not enuy<sup>e</sup> y<sup>e</sup> unde<sup>r</sup>stande wyse-  
 they be but wyse but as stande I write  
 y<sup>e</sup>st<sup>e</sup> for to know y<sup>e</sup>st<sup>e</sup> you have never  
 any part of ground for to knowe how many  
 men y<sup>e</sup> will receive to stand in the mar-  
 yng<sup>e</sup> forme accordyng<sup>e</sup> unto the order  
 y<sup>e</sup> describe and not accordyng<sup>e</sup> to my col-  
 ourable description to a lowe for every man  
 3 foot in bredth and 7 foot in length but ac-  
 dyng<sup>e</sup> unto the order of tartaria to a lowe for  
 every man 3 foot in bredth and but 6 foot  
 in length wherefore I do thinke y<sup>e</sup> necessary



for to know how many men will stand in ten  
 moreing form upon any ground for to me  
 say that and if one is ten yf if you can see  
 the ground and do know the length and the  
 breadth thereof then you may know how many  
 men if it will serve and by the means you do  
 know whether it is to be by the way or to be by the  
 to serve your purpose for and if second point  
 is to be by the means you may know upon any  
 any ground how many men it is to be of your  
 number yf if they be set in ten battal form  
 or in ten moreing form as they will all  
 ways yf if they be going except if it be for  
 policy sake as yf if they would have ten  
 to be fewer in number then they are then they  
 will go to the to go then they do of course  
 and yf if they would have ten less to be  
 more in number then they are then they will  
 go as they do a number then of course and for  
 to know how many men will stand upon any  
 part of ground do this first when you  
 do know the length of and the breadth of any part  
 of ground how many feet it is then



multiply them to vnto y<sup>e</sup> t<sup>e</sup> of y<sup>e</sup> 16 to say y<sup>e</sup> number  
 of featt of y<sup>e</sup> length w<sup>ch</sup> y<sup>e</sup> number of featt of y<sup>e</sup> t<sup>e</sup>  
 bredte and then looke what y<sup>e</sup> number cometh  
 vnto and then draw y<sup>e</sup> number by 18 and then  
 will shew vnto you the two number of men y<sup>e</sup>  
 will stand in the morning form accordyng  
 vnto tartar order y<sup>e</sup> 16 to say to a tow every  
 man 3 foot in bredte and 6 foot in length  
 and now accordyng vnto owre gyldest mesur  
 y<sup>e</sup> 16 to say to knowe how many men will  
 stand upon an aker of ground at an aker off  
 ground det<sup>e</sup> containe of ouer land mesur 160  
 rodde or pole of 16 foot and a half in length  
 and y<sup>e</sup> will make in square mesur 208 foot and  
 8 inches and better every way square so y<sup>e</sup>  
 then will stand upon one aker of ground in  
 the morning form accordyng vnto owre  
 3 foot in length and 6 foot in bredte 2420  
 men and after y<sup>e</sup> rate you may knowe how  
 many men will stand in any pece of ground  
 how bigge for make so ever y<sup>e</sup> the ground  
 be at a quarter of an aker will receiue  
 605 men so y<sup>e</sup> less then 7 rodde of ground  
 will receiue 100 men &c



Page 77 done

And further more I do require it convenient for  
to know how many hundred of men will be in  
length of a mile or less by it if you do so  
the length of men in the marching you may  
give a very new guess of the number at the  
an hundred mile dot containing 5000 foot  
and then as before is declared to allow for every  
about 6 foot is for every 5000 foot by 6  
and that will show unto you how many  
hundred of men will be in a mile in length  
as it is 833 hundred so that you may conclude  
if there will be 416 hundred in half a mile  
and 208 hundred in the length of half of a  
mile and in the length 600 foot just 100 hundred  
and if it be less than 8 part of a mile and then  
you knowing how many men of there is in  
a hundred you may know the number of men

Page 78 done

And further more I do require it convenient for to  
know unto you how far to set a battall square it is  
to say for diverse number of men and the number of  
men being known to say so many men may be



arrest at y<sup>e</sup> number of rowes to be made unto  
and first for 100 y<sup>e</sup> square root and so increasing  
by y<sup>e</sup> least conditio<sup>n</sup> unto 500 and <sup>then</sup> increasing  
by y<sup>e</sup> 2000 until y<sup>e</sup> ten be 2000 and then increa<sup>sing</sup>  
by y<sup>e</sup> 2000 until y<sup>e</sup> it be 40000 <sup>the</sup> first num  
ber is y<sup>e</sup> number of men y<sup>e</sup> second is y<sup>e</sup> square  
root or battell and the third is y<sup>e</sup> remainder  
it will not be knowne

~~And for that y<sup>e</sup> square battell or battell is not  
the strongest way for you to in battell your  
self for y<sup>e</sup> front is much more then  
the side of the battell as for m  
myn opinion and all sort of opinion of dy  
of them y<sup>e</sup> same reason in martiall affairs  
that the strongest way is for to in battell your  
self is to be square upon y<sup>e</sup> ground y<sup>e</sup> is to be  
y<sup>e</sup> side of the battell and y<sup>e</sup> front of the battell  
is to be many foot one way at it is y<sup>e</sup> other way  
and then y<sup>e</sup> number of men in y<sup>e</sup> front will be  
doubled unto y<sup>e</sup> number of y<sup>e</sup> rowes and so by t  
means the be the more men occupied to fight  
all at one tyme as for ever for y<sup>e</sup> tenth it good~~



100	10	6	1300	42	36	21000	144	264	
150	12	6	1900	43	51	22000	148	36	
200	14	4	2000	44	64	23000	151	199	
250	15	25	3000	54	84	24000	154	-84	
300	17	11	4000	63	31	25000	158	36	
350	18	26	5000	70	100	26000	161	79	
400	20	0	6000	77	71	27000	164	104	
450	21	9	7000	83	111	28000	167	111	
500	22	16	8000	89	79	29000	170	100	
600	24	24	9000	94	164	30000	173	71	
700	26	24	10000	100	■	31000	176	24	
800	28	16	11000	104	184	32000	178	316	
900	30	0	12000	109	119	33000	181	-39	
1000	31	39	13000	114	4	34000	184	144	
1100	33	11	14000	118	76	35000	187	31	
1200	34	44	15000	122	116	36000	189	279	
1300	36	4	16000	126	62	37000	192	136	
1400	37	31	17000	130	100	38000	194	304	
1500	38	50	18000	134	44	39000	197	191	
1600	40	0	19000	137	231	40000	200	0	
1700	41	19	20000	141	119	50000	223	271	
The number off men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of men			The number of men			The number of men			The number of men
The number of									



And for this the square foot or barred  
at not the strongest way for to Inbatter  
your self for that the ground is not  
incapable to be the place of the  
the ground in my opinion and  
also it is the opinion of dyers of  
that you must in martial affairs  
that the strongest way is to in ball  
your self is to be square exposed to ground  
that is to say that the feet of the ball  
is at many feet on way at it is the  
way and then the number of men on the  
front will be do ball into the ground  
of the ground and so by that means  
there is the more men seen  
to fight and all the time  
incapable of do to quote it you



to / how unto you how many men y<sup>e</sup> in a rank  
 or in a fronte and also how many ranks that  
 they will be in y<sup>e</sup> side or flank and also in how  
 many foot of ground square every way y<sup>e</sup> they  
 stand upon accordingly at before rehearsed  
 allowinge every man 3 foot in brest and 6 foot  
 in length beginning at 100 men and beginning  
 by y<sup>e</sup> 1000 square until y<sup>e</sup> they be  
 500 and then increase by y<sup>e</sup> 1000 until  
 they be 4000 and y<sup>e</sup> first number of men  
 is the number of men and the second number  
 of men in a rank for y<sup>e</sup> fronte and y<sup>e</sup> third number  
 is the number of ranks for the side or flank  
 and y<sup>e</sup> fourth number is y<sup>e</sup> remaine y<sup>e</sup> will not  
 com y<sup>e</sup> to be a full rank in y<sup>e</sup> fronte and y<sup>e</sup>  
 will they be sufficient to serve to march on y<sup>e</sup>  
 more in a rank / therefore they are to be employed  
 accordingly unto y<sup>e</sup> will of the generale or y<sup>e</sup>  
 capitaine of the leaders of these men / and  
 the number is y<sup>e</sup> number of the fowling the  
 men may stand upon in the battell form to be put  
 out of ground y<sup>e</sup> is to say to be so many foot every way and  
 now followeth the table of y<sup>e</sup> theynges before rehearsed



100	14	7	2	42	figs women off hands figs women off hands figs women off hands
150	16	9	6	51	
200	20	10	0	60	
250	22	11	8	66	
300	25	12	0	74	
350	26	13	12	78	figs women off hands figs women off hands figs women off hands
400	28	14	8	84	
450	30	15	0	90	
500	31	16	4	94	
600	35	17	5	103	
700	36	19	16	111	figs women off hands figs women off hands figs women off hands
800	40	20	0	120	
900	42	21	18	126	
1000	45	22	10	133	
1100	47	23	19	140	
1200	48	25	0	147	figs women off hands figs women off hands figs women off hands
1300	50	26	0	153	
1400	53	26	22	155	
1500	55	27	15	164	
1600	57	28	4	170	
1700	58	29	18	174	figs women off hands figs women off hands figs women off hands
1800	60	30	0	180	
1900	61	31	9	183	
2000	62	32	16	189	
3000	76	39	56	251	
4000	88	45	40	267	figs women off hands figs women off hands figs women off hands
5000	100	50	0	300	
6000	109	55	5	328	
7000	118	59	38	354	
8000	126	63	62	378	
9000	134	67	12	402	figs women off hands figs women off hands figs women off hands
10000	142	71	22	428	
11000	150	75	32	454	
12000	158	79	42	480	
13000	166	83	52	506	



10000	140	71	60	423
11000	148	74	48	444
12000	155	77	65	464
13000	160	81	40	483
14000	166	84	56	501
15000	172	87	30	519
16000	179	89	69	530
17000	184	92	72	552
18000	189	95	45	568
19000	195	97	85	584
20000	200	100	0	600
21000	205	102	90	614
22000	209	105	55	628
23000	214	107	102	642
24000	218	110	20	657
25000	223	112	24	671
26000	228	114	5	684
27000	232	116	85	696
28000	237	118	54	710
29000	241	120	80	722
30000	245	122	110	734
31000	248	125	0	747
32000	253	126	122	758
33000	257	128	104	770
34000	261	130	70	782
35000	265	132	20	794
36000	268	134	88	804
37000	272	136	8	816
38000	275	138	50	826
39000	278	140	80	837
40000	283	141	97	842
more like off men	men in a kan to	Y muck kid	Y mayn	from off around



Page 80 Deane

And furthermore at it is the strongest law  
for you to be battell your self to be square upon  
the ground for that there is more men occupied  
to fight so in this manner yt is y<sup>e</sup> weaker way  
then to be square in number y<sup>e</sup> if you should  
have any charge given unto the flanc or  
of the battell therefore I doo thinke it very  
missary for to shew unto you how y<sup>e</sup> the  
of the battell may be as strong as y<sup>e</sup> front y<sup>e</sup>  
if y<sup>e</sup> weapons be sorted thereafter for that  
they shall have as many men in a rank for  
the flanc as there is for the front upon the  
day and the battell never depart from y<sup>e</sup>  
ground as there is y<sup>e</sup> number of men in y<sup>e</sup> front  
beinge double unto the number of ranks there  
yf y<sup>e</sup> there be any charge given unto the flanc  
of the battell y<sup>e</sup> ground beinge square there  
is but to turne the faces unto the enemyes &  
then two ranks will make one just as for  
an example of 100 men and to be square



upon the ground the space 14 men may stand  
 and 7 ranks and the ground shall be 42  
 foot square then y<sup>e</sup> the land a charge  
 given unto y<sup>e</sup> first then the thirteenth the  
 sixth unto the enemy then the as built  
 7 in a rank and 14 ranks and then  
 the is 6 foot a pike between every man  
 then lett y<sup>e</sup> next rank come unto y<sup>e</sup> first  
 rank and then the will be 14 men in a  
 rank and so every two ranks may march  
 four ranks and then the is but 3 foot  
 at was before between every man in  
 front of the battle and 6 foot between  
 every rank 2<sup>d</sup>

Sec 81 done

And further more y<sup>e</sup> do require y<sup>e</sup> convenient for  
 to show unto you how far to be square upon y<sup>e</sup> ground  
 for any number of men what space every you will  
 have by the man and man both in length & breadth  
 at standing unto y<sup>e</sup> order of mycollet more ife  
 width is in length for every man 7 foot and breadth  
 3 foot &c or all so y<sup>e</sup> you will have now army  
 of men to show by the and to be square upon y<sup>e</sup> ground  
 then you shall by the man and man may be to



wyder ab to a towre 9 foot in length for every man and  
 4 foot in bryth according unto mynde or fancy of  
 yondrall & allgoffe in any accustomed maner gate  
 bym according unto the opynion of dyvers artycordm  
 martiall affayres to a towre but 6 foot in length and  
 3 foot in bryth called of most artycordm of bryde  
 square according unto the tabled in y<sup>e</sup> 79 chapter  
 and now to be known upon the ground we get / wate /  
 howe if you woulde have byt wnt man and man bote  
 in length and bryth then do the first looke how  
 foot if you will a towre in length off ground for every  
 man then you must multiply your number of men  
 by number of feet in length & then divide by number  
 so multiplied by a number of feet in bryth & you shall  
 have for every man and if you then extracte y<sup>e</sup> square  
 root of y<sup>e</sup> number and y<sup>e</sup> shall know unto you how many  
 men shall be in a row for y<sup>e</sup> front of y<sup>e</sup> battell and  
 then to know how many rowes of men then do the  
 looke how many men if you have in y<sup>e</sup> row for y<sup>e</sup>  
 front then divide y<sup>e</sup> number by your proper or towre  
 number of men and y<sup>e</sup> shall know unto you how many  
 rowes of men shall be of them & as for an example  
 the following 30000 of men and I woulde know how  
 many men y<sup>e</sup> then will be in a row and how many  
 rowes of them to be squared upon y<sup>e</sup> ground a towre  
 for every man 7 foot in length <sup>and</sup> 3 foot in bryth  
 according unto mycelle manifest order and to know



that do test first your number of men being 30000  
 an other way 7 foot in length for every man therefore  
 multiply 30000 by 7 and it cometh unto 210000  
 then divide it number again by the number in foot that  
 you do allowe in brette for every man 16 by 3 we  
 find divide 210000 by 3 and then ther will stand in  
 quantite 70000 then extracte the square roote of  
 70000 and then ther will stand in the quantite 264  
 so if you may consider of 264 men shall be in a  
 rance for the front of the battell and now to know how  
 many rances of men of ther shall be for the side or  
 flanks of the battell then do test your number being 264  
 men in a rance and your number of men being  
 30000 we divide 30000 by 264 and then ther  
 will stand in the quantite 113 and then ther will  
 remaine over 168 so if you may consider of 30000  
 men to stand forward upon the ground a length 7  
 foot in length and 3 foot in brette for every man will  
 be 264 men in a rance and 113 rances and 168 men  
 will remaine over we divide 168 men you may employ at  
 the direction of the general and also it will make on man  
 more in a rance and then ther shall be 265 men in  
 a rance and 113 rances and 55 men will remaine  
 over and also by test order you may knowe your  
 square upon the ground we have said so that if you  
 would be by the end man and man in length and brette  
 we divide 7 will give a square of 49 and 49 men  
 10000 men and would have 9 foot in length for every



man and 4 foot in brydth we go for moltiply 10000  
 by 9 and y<sup>e</sup> moltiply 90000 then divide y<sup>e</sup> 90000 by 4  
 and then ther will stonde in y<sup>e</sup> quantite lym 22500  
 then y<sup>e</sup> tynce y<sup>e</sup> square rootte of 22500 & ther ther  
 will stonde in y<sup>e</sup> quantite lym 150 so y<sup>e</sup> you may  
 consider y<sup>e</sup> 150 men shall be in aray for the  
 fronte of y<sup>e</sup> battell and then y<sup>e</sup> number of men by  
 10000 therfore divide y<sup>e</sup> number of men by y<sup>e</sup> fronte  
 it to be 10000 by 150 and then ther will stonde in the  
 quantite lym 66 and then ther remaine over 100  
 so y<sup>e</sup> you may consider y<sup>e</sup> 10000 men along y<sup>e</sup> way  
 man 9 foot in length and 4 foot in brydth to stonde  
 square on y<sup>e</sup> ground will be 150 men in aray and  
 66 ranks and 100 will remaine over we go 100 men  
 will marche on man more in aray that is 151 men  
 in aray and 66 ranks and 34 men will remaine  
 over and so by this meane you may subatoll y<sup>e</sup> way  
 square over the ground as yet for so over y<sup>e</sup> you would  
 have betwene man and man both in length & brydth  
 and then y<sup>e</sup> that you would know how many foot  
 square in ground y<sup>e</sup> they do occupy then it is left to do  
 this moltiply y<sup>e</sup> number of men in aray by y<sup>e</sup> number  
 of foot of y<sup>e</sup> they do occupy in brydth & y<sup>e</sup> shall know  
 unto you how many foot square in ground y<sup>e</sup> they do oc-  
 cupy or else you may do this moltiply y<sup>e</sup> number  
 of ranks by y<sup>e</sup> space of y<sup>e</sup> number of foot y<sup>e</sup> they have in  
 length & y<sup>e</sup> in the same shall know y<sup>e</sup> square of the  
 ground y<sup>e</sup> they do occupy in the same



Page 82 Item

and firste more you sayng any number of men  
you sayng so many we have of every sort more or  
less at it expenseth we have if you would be square  
and if you would or other wise by one knowynge how  
many men if you would be in a rank you may know  
how many ranks if they will be of every sort off  
expenseth at your pleasure at this it is no more but to  
decide of number of we have of every sort by number  
of men if you would be in a rank and if number of  
pounders in the quantity by the scale of number of  
ranks if stand this by deciding every sort of we have  
by it self by the number in a rank you shall perfectly  
know how many ranks if they shall be of every sort  
of we have if stand this if do as at foregoing the  
setting of the sort of the we have referring to  
those if we export in these ranks and all by forms  
of sundry battails at twingled dots and pyns of  
battail called of Galles more other we have forward  
forward forward or back forward and of pyns or  
pyns of battails if will not last upon me to do  
in the of ranks but if do refer of unto these men of  
expenseth in great affairs if







Reg 83 Item

nowe you beynge in battell in any place where  
 if you are near unto your enemye <sup>not</sup> for advantage  
 that you wold take an other place of ground  
 more better for your purpose and yett you come  
 nott com unto it in your battell forme by the meane  
 of some straggst if you must pass therre be  
 fore if you come com unto it and for if you are  
 in battell and wold nott alter the forme  
 of frome of battell then to pass therre by straggst  
 do the place beynge wold be fore hand for  
 many men may ~~more~~ therre in a ranche  
 therre that straggst and then a counterynge  
 your officer as if captayn of 100 wynter  
 or the other officer for if purpose to march  
 therre by straggst accordyng unto if number  
 may march therre and then againe if they do  
 com at the straggst lett the 100 battell stay  
 and then yff it be so narrow if they may but  
 3 men pass therre in now or let ab if place  
 is then begin at the place of battell and



then lett 3 of y<sup>e</sup> frontt begyn to enter and march  
 in and then 3 of y<sup>e</sup> next rank and so forth untill  
 y<sup>e</sup> last rank and then at y<sup>e</sup> end of y<sup>e</sup> last  
 rank lett them 3 of y<sup>e</sup> first rank follow a  
 gaine and so forth untill y<sup>e</sup> they be all entered  
 and gon into y<sup>e</sup> straght and then when they  
 the first 3 in a rank is toward the straght lett  
 them stay and then lett y<sup>e</sup> next 3 in a rank com  
 up by them the untill y<sup>e</sup> he y<sup>e</sup> was in the front  
 be with them y<sup>e</sup> is in the front y<sup>e</sup> first entered  
 the straght and so lett them all stay and  
 y<sup>e</sup> one com up by the y<sup>e</sup> of the other untill they  
 the whole battell be in forme y<sup>e</sup> it was before



for the first 2<sup>nd</sup> of the first corporation & the

000

000

000

000

000

000

000

000

000

000

for the first 2<sup>nd</sup> of the first corporation & the

for the first 2<sup>nd</sup> of the first corporation & the

for the first 2<sup>nd</sup> of the first corporation & the

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

for the first 2<sup>nd</sup> of the first corporation & the

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

for the first 2<sup>nd</sup> of the first corporation & the

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

000

for the first 2<sup>nd</sup> of the first corporation & the

000

000

000

000

000

000

000

000

000

000

000



Page 84 done

And findes more yf of your my marching & for  
any occasion to suffice y number of men in a  
rank if it be to say to be sometime more men in  
a rank and sometime fewer men a rank and  
yett wold have your weapons sorted as they  
were at the first as in the draw next before  
in the passing throu a straght tere the  
weapons it was in the front as despatched  
in every place accordinge unto y often exa-  
mples of the front of the battell so y my  
form they are but wether yf they were a  
brod wyght of y straght wyght y they my  
have any charge or battell given unto <sup>front</sup> wold  
for an easier way to suffice your selfe to be  
great number of men in a rank if you list and  
to have your weapons sorted as they were before  
and not to be alltered but then yf you my  
front to be in the front full and so consequent  
in every place to be as they were before and  
now for a speedy way for to bring your men



from one number of men into another ten  
 to be noted yf if you be 3 men in a rent and wood  
 be 5 then 5 rents will make 3 rents and you  
 being 3 in a rent and wood be 7 in a rent  
 then 7 rents will make 3 rents and being  
 3 in a rent and wood be 9 in a rent then  
 9 rents will make one and being 3 in a  
 rent and wood be 11 then 11 will make 3  
 and being 3 in a rent and wood be 13 then  
 13 will make 3 and being 3 in a rent and wood  
 be 15 then 5 rents will make one and then  
 yf if your wood be 17 in a rent then 17  
 rents will make 3 and yf if your wood  
 be 19 in a rent then 19 will make 3 and yf  
 if your wood be 21 in a rent then 7 rents  
 will make one rent and yf if your  
 be 5 men in a rent and wood be 7 in a  
 rent then 7 rents will make 5 still  
 you being 5 in a rent and wood be 9  
 then 9 will make 5 and yf if your wood be  
 11 in a rent then 11 will make 5 and yf



If you would be 12 mares then 12 will make  
 stand yf if you would be 15 men mares  
 then 3 rams will make one £ and further  
 more you bring 7 men mares and will  
 be 9 then 9 rams will make 7 and you  
 bring 7 and will be 11 then 11 will  
 make 7 and yf if you would be 13 mares  
 then 13 will make 7 and yf if you would be  
 15 then 15 will make 7 and yf if you would be  
 17 then 17 will make 7 and yf if you would  
 be 19 then 19 will make 7 and yf if you would  
 21 then 3 rams will make one £ And  
 furthermore by the order you bring 7 more  
 men mares and will be 21 then  
 at 16 stand before you bring 21 mares  
 and will be but 3 then one ram will make  
 7 and yf if you bring 21 men mares and  
 will be but 5 then 5 rams will make 21  
 and yf if you would be but 7 mares then one  
 ram will make 3 rams and so by this means



you may alter your self from one number unto  
 another and never consort your weapon aboven  
 if you list to alter your number of men in a row  
 then it is but to a point your officers in every place  
 at the same of so many wanted to put them in to  
 what number of you do assign them at your pleasure

### Reg 85 de vis

And if it happen when if you assault in your  
 battell forme and your enemyes at some way to  
 fight with and by fortune they of great ordynance  
 or by small shot if y<sup>e</sup> front or rear rowe be  
 of your battell if y<sup>e</sup> men are slain or wounded and  
 then if y<sup>e</sup> your enemyes do encounter with you then  
 you must needs be over taken except y<sup>e</sup> front  
 and rear rowe be supplied againe with men  
 noted you must not be awght of order for then in  
 that manner you should be over taken and to run  
 away then you in that manner should be over taken  
 wherefore it is to be noted and y<sup>e</sup> best if any officer  
 of the bandes have a diligent fore sight that some  
 any man y<sup>e</sup> struck down by any misfortune if  
 he should be supplied againe forth with men



way is to be done and never to be any other  
 order for the matter and the banner to be before  
 forty men as the lord must have the first  
 instructions of the banner as he doth for the first  
 broken down in the first of the first steps into the  
 place and so every one of them to step forward on  
 till it doth come unto the last rank and so by the means  
 of the men that were taken away in the first  
 ranks of the first rank and the second most  
 ranks of all the and the men may do better  
 in the march or going as well as in stand-  
 ing still for in the going they must go faster than  
 the others until the first come so far forward  
 till the banner be before the second and so be-  
 it will be so of the first ranks of the men above  
 the others until the middle of the battle in every rank  
 the first in the middle of the battle shall never  
 be out to the right or the left until the first  
 in the front of the battle and so in all the ranks  
 until the last rank to come forward in the  
 manner and so by that means the banner of the  
 first of the first rank of the battle shall be  
 in the front of the battle





the fronte payed  
 o o o . . . o . . . o  
 o o . . . o . . . o  
 o . o o o . o . o o  
 a o o o o . . o . o  
 o o o o . o o o . o  
 o o o o . . o o o o  
 o a o o o a o o o o  
 a a o o o o o o o o  
 o o o o o o o o o o  
 o o a a o a a o o o

the fronte payed  
 o o o o o o o o o o  
 o o o o o o o o o o  
 o o o o o o o o o o  
 o u u o o o o o o o  
 o o o o o o o o o o  
 o u o o a . u o u o  
 o o o . . o o . o  
 o o o o . . o o . o  
 o . . . . . o  
 o . . . . . o

the maner as fast  
 as the m<sup>e</sup> fall  
 off the ankerle as

Chapter 86 done

And further more as touching the forming of battell  
 ther is greatt wysdom and policye. For my parting  
 of the weapons and allys in the battell of the  
 consideringe in what sort the your enemyes be made for  
 they are prepared both in the weapons & the wayes  
 and so you to the battell your self against them & you  
 may have the advantage of them yf it be possible  
 consideringe of every tyme of may happen as well  
 of tyme as of place against you as of tyme as of place  
 that is to say consideringe of the number of the



And y<sup>e</sup> further and the weapons one both the  
 the form of the battle on both the sides y<sup>e</sup> advantages of  
 the ground where y<sup>e</sup> it be by hill or by any other  
 means at y<sup>e</sup> river or y<sup>e</sup> stream or water or any other  
 place and also the is great matters y<sup>e</sup> may have  
 in y<sup>e</sup> defence of some thing of the first advantage of y<sup>e</sup>  
 weapons one both y<sup>e</sup> sides for the must use y<sup>e</sup> first  
 of any weapon according unto the weapon at the first  
 against and so to have y<sup>e</sup> advantage of weapons y<sup>e</sup> it  
 may be at in any opinion y<sup>e</sup> it the over to battle  
 with to be found together y<sup>e</sup> one against y<sup>e</sup> other and  
 number of men on both y<sup>e</sup> sides to be equal and also in  
 the appointment of weapons and further to be alight  
 and also in form of battle all one and also y<sup>e</sup> one  
 have no advantage of the ground one y<sup>e</sup> other neither  
 in no other thing but to be all alight in all points  
 and suppose y<sup>e</sup> y<sup>e</sup> front of both the battles is proved  
 and the one as many men as can be at the first y<sup>e</sup> it is  
 possible y<sup>e</sup> y<sup>e</sup> one may over the other y<sup>e</sup> other at the first meet  
 ing of the battle and longst any recovery by y<sup>e</sup> means  
 of the order of the fighting at the y<sup>e</sup> on battle to be  
 according unto the accustomed manner thing  
 to stand at the first of the first of the first and the







Sec 87 done

And further more yf it shal be so that you doe require  
 for to be over mated and if you do shew yf your enemy  
 may be to stronge for you by y<sup>e</sup> greatt strength off  
 your horsemen and the number of men to man for  
 you yf yf you shal fight w<sup>th</sup> them yf you most neede  
 be over ground then to prevent them yf they shal nott  
 be able to give any charge upon you then further  
 or compass your selfe round about w<sup>th</sup> your carriages  
 that is to say w<sup>th</sup> your wagons or carts and so by  
 this waye yf horse men shal nott be able to enter upon  
 you neither the footmen but yf you shal be able to  
 defend them & and yf it shal be so that you shal  
 nott possyble to have wagons or carts to further or to  
 pass you round about then you maye goe neare  
 unto some hedge or dyke or any other lyke to be your  
 refuge for yf you shal and then you maye place your  
 carriages one the other

Sec 88 done

And further more yf it shal be so that you are a horse  
 w<sup>th</sup> a bande of men and if you are beleved betwene you  
 and some by horsemen and by footmen and  
 it is nott possible for you but yf they do charge upon  
 you but yf you must be over ground and you shal



no wagons or carriages to compass your self & your  
 warden unto such a place if it full of bushes & thornes  
 and brambles and then you may say defend your self  
 for that if your men shall not be able to give any thing  
 upon you and also the ab for the footmen you may defend  
 your self &c //

It is so done

At the night time if it be daye when if you are  
 driven to travel by night wether if it be to do  
 any exploit or other way and if you are smother  
 as large bushes or thornes and if you would  
 carry your matter that if you would not can it to  
 be some of your scouts or watch of your company then  
 you must do this every man must prepare a part of  
 a cane of 5 or 6 futes long and with a string tied  
 unto and hang it by his girdle as you do the staff of  
 a staff and if you have a cane must be open at both  
 ends and then if much beinge light you must put  
 that in to the hollow cane if it be light and  
 so if much will burn in the cane and the light shall  
 show to some if and this device is very good to carry your  
 matter in the night wether for if it not shall not  
 show if fire of the matter and you may see by much  
 light you may find it or put it in fender & fender &c



Thus go down

And funder more yf it you have a water for to be a brode  
on the myght and if you wold knowe whether yf  
ther be any forsmen comynge and yf myght beynge yf  
dare yf you can not be yf it any wold comynge yf  
by this meane you may knowe yf yf ther was any  
comynge at this meet a hole in yf ground wch your daye  
or byss of a 2 or 3 fute or depe and a 3 or 4 fute or  
and then steepe downe unto the ground and lay your eare  
therunto and then you shall heare ther unto and yf it  
ther be any forsmen comynge you shall heare them  
and you shall knowe whether yf they do tomyast for or  
and whether yf they be one or two or a number of them  
by the waye wyse of the ground heare a myle before  
yf they do com neare unto you by yf waye wyse of the  
ground and also yf it be upon some hilly ground  
you may heare them more then a myle and also upon  
such ground you may heare footmen a q<sup>ty</sup> of a myle  
whether that they be but one 2 or a number of them

Thus go down

And funder more at the comynge of daye travel by myght  
in such places yf it be in the daye contyn and yf you  
not travel by day for fear of being spied in the day



go ther y comon byt way for fear of being met  
 with all at it may happen by them y falye and taken  
 of his endmors and faw broken pr/bn or oter way  
 to may letters and fure oter but then it becomte fym  
 for to know wege way y y place dote fowd from fym  
 it is to foy into wealt of oter words wege if it be  
 east west north or fte and then accordinge at y place  
 dote becom so to direct his way and so accordinge unto y  
 to east over y tontem y nore way and to govern fym  
 byngst in his way go must of oter words faw and  
 by m y must to direct his way by y y faw byt  
 and by day go may use oter words of a drol wege  
 travel lte in fure place if it ought of oter byt way  
 ab in woods and forest and fure oter but place  
 of y go faw no drol then go must note the place of  
 the faw byng and the faw and the place of norm  
 be untill y go dote com near unto the frontes of the  
 tontem wege his friends ar et

The 92 dote

And yff an armed man be porshed and is in danger to be  
 taken except y faw fym over a water then for  
 fym to fym over a water go may proper the to make  
 atinge to go round a bridge his body ab byt ab his  
 byt man off lator and faw byt and blow it full



of wood be a type of must be made for unto and / by being  
will make him / wynn all off so and an armor on  
back &c //

Page 93 down

And yf it an army of men and for carriages as to passe  
over a river or water and for having no provision of  
boats yett they may make a bryge in this manner first pre-  
pare faster at piers or poyntes and then take long  
timber and then make a frame for wylle in this manner to  
frame 2 piers to gether somewhat shorter in bredth then  
the longest of the fast in this manner



make light unto a ladder butt make byrd  
and stronger and you having prepared sufficient  
number of these then take your fast being made  
length and then take these timbers so made together  
and then put the fast between of two of these frame  
timbers if one being laid close unto the other and then  
make fast these two frames if on being of these one  
of these fast and the other on the other side of the fast and  
then make them so fast that the fast will not move and  
so to make it so long that it will go over the river or water  
and so to have two ranges of fast in these frames  
then these two ranges of fast being placed cross  
over then place planks to lay upon these two ranges



of the laste unto yotege and then beinge made fast  
 unto the timber of the do nott stur from y place then  
 the god army may pass over and then carryed  
 and all for y fast will nott suffer y bryge for  
 to fure all the offe of the do drive the ordynance  
 over it &c

Item 94 done

And furthermore yf at any tyme of mony for to pass  
 over a bode water wether y the dole and a grette  
 tide or from and by y meane of y grette tides  
 and the swift stream it is nott possible to make any  
 bryge to pass over it yott nott wyte standinge it  
 is possible to carrye much provysion w<sup>th</sup> the tyme y may  
 make so many botte w<sup>th</sup> m less tyme then a day at will  
 carrye all y god army over at one or tyme all the offe of y  
 water was 2 or 3 myle over it and ytt that provysion  
 that the god army w<sup>th</sup> the tyme shold nott aske no  
 grette matter in Cambridge for one wagon or cart  
 shold carrye as much provysion to make botte to carrye  
 over 400 or 500 men & at the first yow and the  
 and then w<sup>th</sup> the tyme make the mowle of a bott of 20 or  
 30 foott longe more or less at your discretione and



in depth 3 or 4 foot at your discretion and of 8 foot broad  
 more or less at your discretion and if done with the  
 be made short of mould of the boat if it may be  
 fitt to be drawn one upon it and if so much so sowed or sowed  
 if it doth not hurt if it may be tugged to good out water  
 and if done then to land in sundry places for to stop  
 or stringed to make it fast and then it is finished and  
 and then it may be flooded up and land in water or water  
 ground and then you may make some a number of them  
 30  
 shall be sufficient to save your town at a bottle of 8 foot  
 long and 8 foot broad and 4 foot deep will take 40  
 or 50 men at each end and then when so ever if you do  
 intend to pass your army over any river then repair unto  
 some place near unto the river side where there is some young  
 wood and then if shall save your town to the intent to  
 make your boats at this time done of the young wood  
 then take one more wood to make it for the boat of  
 the boat and to cut it of its length according unto the  
 length of the mouth of the river first made and so a post  
 for the stem and if so much post accordingly and then  
 to make poles to cut for the sides and so fasten and  
 so consequently to every place and then all them be finished  
 and made to go then in all places and if done all  
 the boats be drawn on over if a river made fast to the river



and then it is finished and then for testimony that  
 if men may not tread upon the water in the bottom  
 of the boat they may stand upon the water or else to make  
 gardens of purpose and then the boats bring with  
 in to the water they will swim as well as any other  
 boats and may rowe to and from and yf it were  
 to goe 100 myles therefore they must make some  
 provision of oars for them &c

### Se 95 Deviser bipsonetrie

It to regece test for to know whether it com ground  
 be ever or lower then y<sup>e</sup> ground it you do stand upon it is  
 known by y<sup>e</sup> order as in y<sup>e</sup> first devise to the line of y<sup>e</sup>  
 horizon it allwayes touching and meetinge some  
 the furthest part it you do see dots titt upon the ground  
 it you do see to know whether it be ever or lower  
 and to see at what girth you do see y<sup>e</sup> horizon that is  
 equall in girth to the height of your eye and then  
 touching y<sup>e</sup> girth upon y<sup>e</sup> other ground then it is equall  
 to your feet and yf that it be seen y<sup>e</sup> horizon to be  
 over y<sup>e</sup> other ground then y<sup>e</sup> ground is lower then the  
 ground it you do stand upon & stand also yf it you can  
 amonge y<sup>e</sup> hills and if you can not see y<sup>e</sup> horizon  
 in full then you may know whether it be ever or



Lower by a spier. Gauging a plomett of leade at y<sup>e</sup> corner  
and sett the edge of y<sup>e</sup> spier first in the line and then  
take your sight by y<sup>e</sup> upper part of the y<sup>e</sup> hand & according  
y<sup>e</sup> place you shall know whether it is higher ground  
or lower &c

### Reg 96 de re hidrogastie

for to know whether it be possible to bring y<sup>e</sup> water  
of any springe unto any place Assigned it is thus know  
ow to know howe far it may be raised it will always  
come unto any place if it is any tyme in fountaine under  
neath y<sup>e</sup> place if y<sup>e</sup> spring cometh forth of a covein manner  
be raised in fountaine at your place so if it be any  
thing lower then the fountaine of a lowing for any  
distance <sup>from</sup> y<sup>e</sup> fountaine of the spring to be 3 fathoms and a half  
higher then the place if you would raise it <sup>up</sup> unto and for 2  
mylles 14 fathoms <sup>for</sup> y<sup>e</sup> thickness of the earth for  
for to know whether y<sup>e</sup> ground be higher or lower it is  
declared in the de re going before.

### Reg 97 de re hidrogastie

And further more for to turne a water to be a water that  
past y<sup>e</sup> ground a town of your enemies at it is out of y<sup>e</sup>  
primipalle a noyance to take away the first matter  
from them and to do it thus you must first the first must  
dye y<sup>e</sup> matter to be and then by the way to be it any



ground if it lower then y<sup>e</sup> ground if y<sup>e</sup> water course come to y<sup>e</sup>  
 to consider w<sup>ch</sup> way then y<sup>e</sup> water will come for  
 it will all waies sett into y<sup>e</sup> lower ground and then  
 upon the w<sup>ch</sup> the w<sup>ch</sup> for y<sup>e</sup> must accordingly make  
 y<sup>e</sup> w<sup>ch</sup> the w<sup>ch</sup> for to conduct the water past the place  
 it may returne into y<sup>e</sup> water course againe and all y<sup>e</sup>  
 considered and done then putt the way there into y<sup>e</sup> lower  
 ground and make a damme hard below y<sup>e</sup> m<sup>ch</sup> old water  
 to be and so by y<sup>e</sup> m<sup>ch</sup> and y<sup>e</sup> may have a small river  
 or water course &c

### Reg 98 deure hysometrie

for to know y<sup>e</sup> site of a tower by y<sup>e</sup> shadow of  
 a stile or quadrant y<sup>e</sup> stile beinge 12 parte of  
 a visibon by springst shadow it is to say to know  
 the site w<sup>ch</sup> m<sup>ch</sup> longest of y<sup>e</sup> temple at y<sup>e</sup> part  
 12 y<sup>e</sup> m<sup>ch</sup> into y<sup>e</sup> temple is y<sup>e</sup> site of the temple  
 at the part 6 y<sup>e</sup> m<sup>ch</sup> into y<sup>e</sup> temple is the site of the  
 of y<sup>e</sup> temple at y<sup>e</sup> part of 4 y<sup>e</sup> it is y<sup>e</sup> third part of the  
 m<sup>ch</sup> of the site of the temple at y<sup>e</sup> part 3 is a  
 quarter of y<sup>e</sup> m<sup>ch</sup> of the site of y<sup>e</sup> temple at the part  
 one y<sup>e</sup> 12 part of y<sup>e</sup> site of y<sup>e</sup> temple &c ab 7 do find  
 how m<sup>ch</sup> 2 quarter of y<sup>e</sup> first part of m<sup>ch</sup> to be  
 tall at a stile for travelers

### Reg 99 deure hysometrie

for to know y<sup>e</sup> site of a tower by springst shadow



meson if it is so that you cannot come into the base or foot  
 of the tower then you must come to stations or standing  
 and if first one of part 12 and if next one of part 12  
 if measure between the two standing is equal to the height of  
 the tower or if first one of part 12 and if next one of part 12  
 then the measure between the two standing is the height of the  
 part of the gate of the tower or if one of part 12 and  
 if other part of part 12 then the measure between the two  
 standing is a part of the gate of the wall or tower  
 and 12 and the other 10 then the measure between the two  
 is the part of the gate of the tower and then  
 it is given so that you cannot go so far back then to the  
 many parts of the tower is between the two standing and  
 to the wall part then is of 12 so that you know what  
 part of it is the gate of the tower at the height of the  
 of the part of the tower is the gate of the tower and if it is  
 a then a tenth part of the gate is 3 then one of part 12  
 gate is 2 if first part of the gate and if but on then  
 it is the 12 part of the gate and if so more at last  
 declare in the 2 chapters of my first part of my book  
 before mentioned &c

The 100 degree bishopric

To know the gate of a tower by contrary to the height of the  
 standing on the gate of the tower and if first standing on



the 12 and the next standing on the 6 of contrary  
 side then the measure between the two standing shall be  
 the length of the thing first and the first standing on the part  
 and the next on the 4 then the measure between the two  
 standing shall be the length of the thing and the first standing  
 on the part 4 and the next on the part 3 the measure between the  
 two standing shall be the length of the thing and the  
 first standing upon the part 3 and the next upon the part  
 2 then the measure between the two standing shall be  
 the length of the thing of the thing it is to say the length of the  
 thing of the thing of the tower of the wall and the on the  
 standing on the 2 and the next on the 1 one standing  
 then the measure between the two standing shall be the length  
 of the thing then the 12 of the 12 of the measure shall be the  
 length of the thing and it is more plainly shown in the 4th  
 of the first part of my book and before we go to the

the 10 and 11

And to know the part of the length of any thing at the length  
 of a window or the length of a pinacle or the length of any  
 thing it is to take then take your sight at the 12  
 first of the upper end and then the lower end and then the  
 measure between the two standing shall be the length  
 of the thing and it is shown in the manner shown more  
 plainly in the 4th chapter of my book before  
 we go to the



Page 102 Apomecor. 6719

And to know of distance unto any mark by a staff  
 mark being of any distance from you then it is best  
 to lay a astrolabe or quadrant flat w<sup>th</sup> a staff upward  
 for measuring of it you may commit error quickly and  
 perceive it nott & for y<sup>e</sup> first standinge then take a  
 thwart mark makinge a square angle & you must go  
 directly unto it after y<sup>e</sup> you have observed of beinge  
 of you doe observe of distance unto and then when y<sup>e</sup>  
 you are come unto your thwart mark then sett a astrolabe  
 as it was before y<sup>e</sup> it is to say y<sup>e</sup> line of level to stand  
 just w<sup>th</sup> y<sup>e</sup> place y<sup>e</sup> you did depart from and then  
 y<sup>e</sup> staff of mark before at y<sup>e</sup> part 12 then y<sup>e</sup> mark  
 go from y<sup>e</sup> place of y<sup>e</sup> first standinge as much ground  
 as it is betwene y<sup>e</sup> tow standinge just as an y<sup>e</sup>  
 at y<sup>e</sup> part 6 then y<sup>e</sup> distance from y<sup>e</sup> place of y<sup>e</sup>  
 standinge unto y<sup>e</sup> mark shall be double unto the  
 measure betwene the tow standinge of it to say y<sup>e</sup> y<sup>e</sup>  
 measure betwene y<sup>e</sup> the tow standinge y<sup>e</sup> but half  
 y<sup>e</sup> distance unto y<sup>e</sup> mark and y<sup>e</sup> staff at y<sup>e</sup> part 4 then  
 the measure betwene y<sup>e</sup> tow standinge is but the third  
 part of the distance unto y<sup>e</sup> mark and y<sup>e</sup> staff at y<sup>e</sup>  
 part 3 then it is but one quarter of the distance unto the



market and if at the pte tow then it is but the first  
 pte of the distance unto the market and at the pte one  
 then it is but the 12 pte of the distance unto the market  
 as I do more plainly show in the chapter of my book  
 before written & am by this means you may  
 know the distance unto any market as unto a town  
 it is also an answer in any garden or meadow &c

See 103 Diagramme Aponeconetrie

And furthermore you may know the distance unto  
 any market the length of the cross staff or the length of any  
 wall or the distance between any two markets as  
 this is if you doe set the transverser the length of it  
 from the end and then you bring the to the end of  
 the transverser the end of the wall by the sight  
 of your eye then measuring the distance unto the wall if  
 you shall find the full length of the wall and  
 then if you may not come unto the wall then you  
 must make two standynge by the measuring by the  
 of two standynge you shall know the length of the  
 wall & the distance unto the wall at the first stand  
 directly against the middle of the wall & the removal  
 the transverser forward or backward untill if you  
 do see the two standes of the transverser to agree with the







you can then sett it by y<sup>e</sup> meadow of y<sup>e</sup> north pt<sup>e</sup> to  
 y<sup>e</sup> northwardes and y<sup>e</sup> east and west and y<sup>e</sup> north pt<sup>e</sup> to  
 accordingly by y<sup>e</sup> same then lett y<sup>e</sup> instrument stand  
 still and then turne y<sup>e</sup> alidial or roller w<sup>ch</sup> y<sup>e</sup> two  
 y<sup>e</sup> first unto y<sup>e</sup> most marked y<sup>e</sup> you doe desire to know  
 y<sup>e</sup> stand unto and so shall remove y<sup>e</sup> alidial day  
 untill y<sup>e</sup> you may see y<sup>e</sup> most toward y<sup>e</sup> two y<sup>e</sup> first  
 then lett at right point and degree y<sup>e</sup> alidial  
 doth point unto and note y<sup>e</sup> in a p<sup>er</sup> of pay<sup>er</sup> for a  
 remembrance and so untill y<sup>e</sup> you have observed all  
 y<sup>e</sup> things w<sup>ch</sup> in y<sup>e</sup> angle of y<sup>e</sup> first and then goe unto  
 an other place y<sup>e</sup> w<sup>ch</sup> you mark before and place  
 your instrument and then turne y<sup>e</sup> instrument untill  
 it doth stand done north and y<sup>e</sup> at it did before  
 and then observe all y<sup>e</sup> marked before observed  
 pay<sup>er</sup> and note it as you did before and then when  
 y<sup>e</sup> you do come from then accordingly unto y<sup>e</sup> notes so  
 taken then upon a sheet of pay<sup>er</sup> make first a line  
 and divide it as you doe y<sup>e</sup> instrument and then  
 accordingly unto y<sup>e</sup> notes of y<sup>e</sup> observation y<sup>e</sup> you  
 found in the pay<sup>er</sup> so draw lines from y<sup>e</sup> center of  
 y<sup>e</sup> wheel unto y<sup>e</sup> division of y<sup>e</sup> place in the wheel  
 of y<sup>e</sup> point and degree y<sup>e</sup> is mentioned in y<sup>e</sup> pay<sup>er</sup>  
 of observations and so lett y<sup>e</sup> line round in length



unto y<sup>e</sup> papers edge y<sup>e</sup> it doth require and so m<sup>e</sup>  
m<sup>e</sup>ndre drawe it many times at you from observed  
places at y<sup>e</sup> sundrye and then on y<sup>e</sup> line it was  
your second. Then y<sup>e</sup> or place of your observinge  
mark an other in bell and draw it as before it  
was for and then from y<sup>e</sup> center of that in bell draw  
lines unto every one of y<sup>e</sup> desired points at your next  
my paper doth showe and then y<sup>e</sup> one line will  
cross the other and looke at what place of y<sup>e</sup> line  
doth cross then accordinge unto y<sup>e</sup> proportion of  
one place doth draw from y<sup>e</sup> other as well in distance  
as unto what partes and then you measuringe y<sup>e</sup>  
distance betwene any to places and so measuringe a  
scale or trone of measure by y<sup>e</sup> proportion of the  
length of y<sup>e</sup> line for these to places and then with a  
pair of compasses you may knowe y<sup>e</sup> distance  
unto any of y<sup>e</sup> places in y<sup>e</sup> plat at your pleasure  
do more at large declare in y<sup>e</sup> 13 chapter of the  
first part of my booke before referred  
Page 105 done in p<sup>r</sup>omectio

Howe distance unto any place beinge knowne y<sup>e</sup> height  
of any hill or y<sup>e</sup> depth of any valley may be knowne  
howe high it is high or lower than y<sup>e</sup> place if you doth



stand upon by the parties of the stall at the part one of  
 the or depends it is the part of the distance unto the market  
 at the part two of the or towards it is the part of the distance  
 at the part three of the part of the distance at the part four of the  
 the off the distance at the part five of the distance at the  
 it is before declared and by the order you may  
 know the part of the or towards of any tower hill or depend  
 of any at hand so that it is not very far from  
 distance at the part six of the distance in the first part of the  
 the before referred to

The 106<sup>th</sup> of the

for to know the part of any hill or tower or depend  
 it is any great distance from you or it depends of  
 any tower or any other more if you do desire to  
 to know how much it is the or towards the  
 from you do stand upon then you must know the  
 by the degrees of a staff or quadrant at the part  
 distance unto any place being known then the  
 place be the or towards by one degree then the  
 it is the or towards by the part of the distance at the  
 it is over 60 feet from you then it is over on four feet  
 or towards the part is 60 feet and if it is over two  
 degrees the or towards then it is the or towards of the  
 then it is over 30 feet of the distance in the



or lowndes and yf it were be fore from you  
 then at war to stand in eith or lowndes yf 120  
 footes and yf it were 3 degrees high or lowndes  
 at war yf 20 ft of y<sup>e</sup> distance in eith or lowndes  
 yf it were 4 degrees high or lowndes then yf war yf 15  
 ft of y<sup>e</sup> distance in eith or lowndes and yf it be  
 5 degrees high or lowndes then at war yf 12 ft of y<sup>e</sup>  
 distance high or lowndes then yf ground or place yf you  
 doe stand upon and yf it be high or lowndes by 6 degrees  
 then it is yf 10 ft. yf y<sup>e</sup> distance high or lowndes be  
 10 ft of y<sup>e</sup> distance with some unto you expect the  
 guess but yf it be raised or delayed with more degrees  
 then it will grow with error and then you must  
 use y<sup>e</sup> scale for y<sup>e</sup> degrees to y<sup>e</sup> device (yond of the scale)  
 And find more by y<sup>e</sup> device you begin upon a high cliff  
 or any high tower by y<sup>e</sup> sea coast you may know y<sup>e</sup> distance  
 unto a ship yf 10 say the high one the sea you know  
 the high of the cliff or tower how many footes yf  
 10 yf it be y<sup>e</sup> sea water yf then you asyng it by y<sup>e</sup>  
 scale or y<sup>e</sup> degrees as by y<sup>e</sup> device going to be fore yf  
 observed at 10 yf 10 degrees downwards yf 10



If you know it is but 60 tymes of the cliff or tower  
 unto the ship and yet tow degrees then the distance is 30 tymes  
 of the cliff or tower unto the ship if 3 degrees then 20  
 tymes if 4 degrees is 15 tymes if 5 degrees then 12 tymes  
 if 6 degrees then 10 tymes if it yet grow more degrees  
 the times of the cliff or tower shall and if shall know  
 you know many tymes of the cliff or tower shall the  
 distance unto any ship saylinge one if you could do  
 in my booke for further knowe

The 108 dede Apowecoules

And furthermore by the degrees and also by the parts of the  
 shall you may know the distance unto any ship sayling  
 upon the sea and you may know man to be made of the  
 saylinge on the sea all the off if I do know the opinion of  
 the men expertly well seen in the mathematicall  
 science or nott of the opinion for if the tow marke  
 saynge both morable and by the then can nott get  
 no certain station if the then gate the way it most be  
 possible and yett nott the standing it is to be done  
 very certainly at the at I do know in the science  
 for to know whether if one ship doth order to the  
 other by the standing and up unto the top to mark  
 how the the line of the horizon doth toot upon the other



[illegible]



at before is declared both by degrees and also by  
 the parts of the face &

i To go 109 down Apomecometrio  
 but if best and if fewest way to know if true  
 distance from you unto an other place one if sea is  
 to doe if not if truest and so shall you work very  
 exactly if you doe handle it directly at first  
 if you doe desire for to know if distance unto  
 and at before is declared you can find it how so  
 many foot in length from the water unto the top  
 of the mast and then take your cross staff and it  
 must be such a staff as is transitory that is to plates  
 to be removed narrower wider and then remove it  
 to the plate unto the middle of the staff at an inch or two  
 a fower at your discretion so if you doe know justly  
 how much of the two plates be a fower and then set  
 the end of the longer staff straight unto the corner off  
 your eye doing in all the points as you would observe  
 if some or other at the sea and so removing the transitory  
 barward or forward until you may see the top  
 of the mast of the ship and the lower part of the ship  
 of the water to agree justly by twome the plates by the  
 right of your eye and if you come down look how  
 many times of the distance of the two plates be a fower



from the eard next unto your eye. Then so many times y<sup>e</sup> eye  
 of y<sup>e</sup> toppe of y<sup>e</sup> mast<sup>e</sup> downe unto y<sup>e</sup> water. Then y<sup>e</sup> distan-  
 ce y<sup>e</sup> ship<sup>e</sup> as for an example at y<sup>e</sup> 7 being at y<sup>e</sup> sea  
 in a ship<sup>e</sup> and y<sup>e</sup> do desire to know y<sup>e</sup> distance unto another  
 ship<sup>e</sup> and then as before is declared y<sup>e</sup> do stand one unto y<sup>e</sup>  
 toppe of y<sup>e</sup> ship<sup>e</sup> of y<sup>e</sup> same y<sup>e</sup> untill y<sup>e</sup> do see y<sup>e</sup> toppe of  
 y<sup>e</sup> other ship<sup>e</sup> mast<sup>e</sup> just at y<sup>e</sup> horizon and then y<sup>e</sup>  
 take a line <sup>of y<sup>e</sup> horizon</sup> as a lead and from y<sup>e</sup> place y<sup>e</sup> <sup>of y<sup>e</sup> horizon</sup> y<sup>e</sup> eye of y<sup>e</sup> ship<sup>e</sup>  
 downe unto y<sup>e</sup> water y<sup>e</sup> lead and y<sup>e</sup> line is lett downe and  
 so by y<sup>e</sup> measure you find founde y<sup>e</sup> other ship<sup>e</sup> toppe of  
 y<sup>e</sup> mast<sup>e</sup> is so many foott as for an example at y<sup>e</sup> founde  
 to be 60 foott in length from y<sup>e</sup> toppe of y<sup>e</sup> mast<sup>e</sup> unto y<sup>e</sup> water  
 then y<sup>e</sup> do take my cross staff and remove y<sup>e</sup> to y<sup>e</sup> platte of  
 y<sup>e</sup> transitory untill y<sup>e</sup> they be just asunder and y<sup>e</sup> done then  
 y<sup>e</sup> do sett y<sup>e</sup> eard of y<sup>e</sup> long staff <sup>one fuche</sup> unto y<sup>e</sup> transitory  
 eye watching at y<sup>e</sup> other eye and so lookinge towards  
 y<sup>e</sup> other ship<sup>e</sup> and removinge y<sup>e</sup> transitory to and from untill  
 y<sup>e</sup> do see y<sup>e</sup> toppe of y<sup>e</sup> mast<sup>e</sup> and y<sup>e</sup> lower part of y<sup>e</sup> ship<sup>e</sup> at y<sup>e</sup>  
 edge of y<sup>e</sup> water to agree justlye between y<sup>e</sup> to platte  
 by the sight of myn eye and then y<sup>e</sup> done y<sup>e</sup> do looke  
 how many fuches y<sup>e</sup> transitory is from y<sup>e</sup> eard next  
 unto me and then sope y<sup>e</sup> it is 40 fuches we have then  
 y<sup>e</sup> do take y<sup>e</sup> of y<sup>e</sup> ship<sup>e</sup> is 40 <sup>60 fuches</sup> from me for y<sup>e</sup> to  
 platte is just one fuch asunder and then y<sup>e</sup> transitory



longer 40 fute from the same then it must needs  
be said that the ship is 40 times the length of mast out  
of water in distance from me and being 60 foot and  
60 foot is a score therefore I may conclude that the ship is  
40 fute from me &c

Esse 110 done appertene

And furthermore I determine it convenient to serve unto  
you how if you may know the length of any tower or wall  
or wall without any instrumented as with a glass or  
most convenient with a dyke of water as this after the  
plainest order for every person that will attempt  
to work it by a proportion of a staff to length to know  
the greater therefore for the avoiding of these matters you  
do this first take a little water in a dyke and then take  
a staff or stick of 4 or 5 foot long at your pleasure and  
then get unto the tower or wall if you do require to know  
the length of it and set down the dyke of water upon the ground  
between you and the tower and then lift your feet up  
and down untill you do see the shadow of the top of the  
tower or wall in the water and then set the staff up  
right before you and then the staff to be still as right  
remov it forward or backward untill you may  
see the shadow of the top of the tower in the water just  
the top of the staff ~~upright~~ by the sight of your  
eye and then the end of the top of the staff agreeing with  
the shadow of the tower in the water then the end of the



staffe at y<sup>e</sup> ground stondynge still at y<sup>e</sup> place then take  
 y<sup>e</sup> staffe downe vnto y<sup>e</sup> dysse of water and then y<sup>e</sup> staffe  
 doth over the dysse of water then remove  
 y<sup>e</sup> dysse of water funder from y<sup>e</sup> tower or wall but y<sup>e</sup> staffe  
 doth com y<sup>e</sup> staffe of y<sup>e</sup> dysse of water then  
 remove y<sup>e</sup> dysse of water merr vnto y<sup>e</sup> tower and so  
 to remove it in or out of the wall y<sup>e</sup> dysse of water  
 doth fall justly to y<sup>e</sup> middell of y<sup>e</sup> dysse of water  
 and then merr from y<sup>e</sup> place vnto y<sup>e</sup> foot of y<sup>e</sup> wall  
 of y<sup>e</sup> tower and so to many feet y<sup>e</sup> it is  
 at y<sup>e</sup> first the dysse of y<sup>e</sup> tower is brought any far

And in deede y<sup>e</sup> purpose  
 \* And fater more y<sup>e</sup> staffe it be so y<sup>e</sup> you can not merr  
 vnto y<sup>e</sup> wall of y<sup>e</sup> tower then to know y<sup>e</sup> dysse  
 a tower a wall or temple then you moost do this at  
 your dysse of water y<sup>e</sup> first stondynge beyng taken  
 to be far is as far as y<sup>e</sup> shadow of y<sup>e</sup> top is just  
 at y<sup>e</sup> length of y<sup>e</sup> staffe then make a mark upon  
 just as y<sup>e</sup> length of y<sup>e</sup> staffe and then wether at y<sup>e</sup>  
 dysse of water take first then make a mark and  
 then remove y<sup>e</sup> dysse of water funder from y<sup>e</sup> tower  
 or temple and then go so far backward vnto  
 y<sup>e</sup> you doth be y<sup>e</sup> shadow of y<sup>e</sup> top of y<sup>e</sup> staffe



of the of water and to a yre the y may be upon the  
 any dell of y staff or the first of the on eye and then  
 hang down y staff as before is used for it y  
 end of the staff doth rest justly y middle of y dell  
 of water as before is used for it y full length of  
 y staff be to fort then sett y dyke of water under  
 onto y tower and y it doth over the then sett it  
 in the of and so remove it in and over it untill  
 it doth a yre against and then moving the  
 ground. Between the too stonynge and I will shew  
 unto you y how the of y tower or stonynge is.

### The 112 device of a tucke

For it is do tucke is a very necessary and convenient  
 for to shew unto you how for to know what way get  
 it you are able for to paye it. Liff uppe from y ground  
 y it is used after the order of the tucke with y ro  
 lay to poore one end under it and to way or paye down  
 y other end for y it is used many times a bowget y  
 tucke of great and small tucke as y lifting  
 of great and small ordynance or great and small  
 timber or stone. And it is the swiftest way  
 to move or to gett away y it will lift or paye  
 y tucke how much y it will lift or  
 y tucke is more or less over y way or way







megethene of the rope goth a bowyst of one foot in  
 diameter. Then a spar for the wayte by the end more then  
 1000 wayte to the in the weell shall way a teny of  
 12 smideth wayst be according vnto the comfast of  
 the weell and the comfast of the weell the of the wayst  
 will way up the bygger and the lyt effectes as in the  
 often followinge of ropes for to room in pulleye as  
 we may see by the table of the ropes &c

### De 114 de the trochiliche

And also in weelles yf the one weell doth turne an  
 other you may know by the one weell how often times  
 the other weell shall turne yf a bowyst as for the  
 weelles doth turne or goe by the way as at some doth turne the  
 cogges or by a rope or by the way as at the yf the one weell  
 doth turne the other by the way then it is known by the  
 number of the cogges in the other weell as yf the one  
 of the cogges of the weell be doth vnto the other then  
 for the one weell in the goinge a bowyst one time the  
 other shall turne ten times &c and yf it be so  
 the number of the cogges be 10 times the other then at the goinge  
 the bygger weell one time the other shall turne 10 times  
 a bowyst &c and in the same yf the number of the cogges  
 be 100 times the number of the cogges then for the one  
 goinge a bowyst of the one the other shall turne 100  
 times &c all wayes according vnto the number of the cogges







do this first multiply by 12 in it 12 times number out  
 of the number done and then divide by the number  
 according to what it begins or smallness as you would  
 have it platform or superficial and if done then  
 extract the square root of the number and it will give  
 unto you the length or short of the superficial  
 shall remain the same by every rule you shall  
 have of finding and proportion and be of use at any  
 time if you list to do more in the sense of  
 the part of my book called the surveyor's hand

§ 117

And further more if you have any circle or square  
 and you know the content of the same and will know  
 the content of the other as if it were a circle or square  
 or a mast or any other thing and you know the  
 of the one at such a length let the content of the same  
 be as of so many paces way off and you know  
 another of an other side by the same and at the length  
 you will know what it should contain the same in  
 way off or in measure then do the first multiply  
 them both together in the circumference or in  
 the diameter for it is all the same squarely it is to  
 say both the numbers to be at one and then by bringing  
 the number multiply by the known by the content of the paces  
 or inches of the known and by bringing the same then



And of gold number by  $\frac{1}{2}$  number of root multiply  
 of  $\frac{1}{2}$  known content and it will show unto you  $\frac{1}{2}$   
 how content in rounded or furred of  $\frac{1}{2}$  known  
 at  $\frac{1}{2}$  do more plainly show in  $\frac{1}{2}$  third part of my  
 booke before expressed &c

To the 118 dene stereometrie

And find more for to know how far too be body content  
 of any solid body if it to say to make it byger or less  
 and so to find it in  $\frac{1}{2}$  proportion at  $\frac{1}{2}$  it were  
 a cube or a cone or a globe or any other master body  
 at last or a square or left and to know of molle and  
 proportion and to be byger or less at your discretion  
 that you must do by this meane as this you saynge  
 any thing for an example and now find an other  
 of  $\frac{1}{2}$  size and form in all points but if you would  
 have it  $\frac{1}{2}$  more byger or less then you must do  
 this take of measure of it and if done then multiply  
 it exactly and if done I increase of number with that  
 quantity in byges or less if you would have  $\frac{1}{2}$   
 less then to do that of number into of quantity of your  
 word and if  $\frac{1}{2}$  more in byges and if byger done then  
 extract of cube root of  $\frac{1}{2}$  and if will show unto  
 you how long and broad and deep of  $\frac{1}{2}$  thing must be  
 and by this order you may do all a fast in byges  
 more or less or  $\frac{1}{2}$  binder or turnage of a thing and to



it is of molde and proportion made pointed at 7 do  
now it can be doctored in my booke called the theoreme  
for transmuting &c

The 119 down stereometrie

And furthermore yf yf you have a cube or globe  
of wood or stone or metall and you know the  
containe of yf and weght of it be in wayght or measure  
and you do desire to know the containe of yf other then you  
must do this first you must multiplye the same both  
severally entyng it to say yf it were a globe  
or a foot for example entyng of yf and multiplye yf  
by 8 of it in yf selfe number and then yf number to  
be multiplyed againe by 8 yf and then it is cubed  
and yf done you know the wayght of yf and can  
desire to know the wayght of yf other then multiplye  
an unknown foot by the wayght of yf known and then  
that number to be divided by the number of yf known  
and yf shall come unto you the wayght of yf unknown  
and by the same you may know the wayght of any  
foot of yf from you know the wayght of any  
may know the wayght of all other foot of yf  
from the yf be at 7 do further doctored in yf part of my booke  
before we goe further &c

The 120 down stereometrie

And furthermore yf yf you would know how many  
foot or inches of yf is in any globe that is given



Known of circumference and of diameter by my  
 known then multiply of half circumference  
 of half diameter and of done then multiply that  
 number again by the said diameter and then take  
 3 parts of that number and of will show unto you  
 how many foot or furlongs yd m of globe or else  
 do this multiply that number diameter of the globe  
 subyctly and of done multiply that number by 11  
 and of done divide that said number by 21 and of m  
 that manner will show unto you the content of the  
 globe or else a cube of 4 will make a globe of 5  
 at 7 id more at large show unto you in the third  
 part of my booke called a treatise for travellers &c  
 The 121 device concerning

\* To the purpose of measuring of any strange forme  
 such as geometrie can not give nor ordering for  
 of measuring thereof as a pyle of it is furrowed in  
 one place and boyled of on of it in an other place or a  
 branch in mistayle or a rownd or a ringe bowle  
 such other lyke for to know the content in mistayle  
 how many furlongs of the way of it that you may  
 know by this meane to putt water in a vessel  
 to be and of done to make of edge of the water round



lowghtes and if done then putt in that thing of yow  
 in water to know if contented in to yow water if it  
 may be covered and then take out of it and yow water if  
 it may be by yow measure of yow thinge put into yow water  
 into yow water doth stand first in yow place if yow  
 may be before and then yow examine a cubit or any  
 thinge to put yow water in to it yow may measure yow  
 inches in it then yow water if yow have touched out  
 will show unto you justly how many inches off  
 in the yow thinge is in yow thinge if yow have proved by  
 water and by this measure you may know yow content  
 of any thing what forme so ever it is at any place  
 of further show in yow chapter of yow part of my  
 book called a treatise for the use of the

To be 122 down perspective

And further more it is possible for to place a glass in  
 a chamber or a chamber in a house for to see any thing  
 abroad in yow chamber if it be made unto any house  
 or window as by the or bottles doth take to the from  
 the yow may see in yow glass the yow house yow thinge  
 in a house as plainly as if it were sold for a house  
 and yett then see unto some high hill or high tower  
 for to see them of yow house yow thinge is necessary  
 necessary for men of honour or gentlemen for



to be sold in the same land what is a brode in some  
such part of the ground of the same and am pleased  
to be sold and so in to it what is the same for  
the quantity of it will show at the same in the same  
or called in the same part of the land or what part of the  
of the same in the same garden or out garden and also  
it is the same in the same for a the same or the same  
of a town or front or the same in the same of it be in  
such place of it is the same in the same or the same  
any thing to be sold towards the same or garden or the  
the same in the same for the same for the same may be  
the same of the same may be the same of the same  
the same or the same in the same or garden or the same  
any part of the same in the same way - but the same in  
the same of the same the same of the same the same  
no great extent of ground in the same except the same  
the same be the same the same and also the same of the same  
the same the same the same be the same in the same manner  
the same for the same of the same in the same or the same  
to be the same a brode the same most be the same the same  
most purpose by the same the same of the same proportion  
the same the same the same the same the same the same  
of the same or of the same the same the same of the same the same



be used wether y yf most found for yf it is nott possible  
 to place a glasse nott in some chamber to be any thing  
 a brode but it moost be in some place or corner at yf  
 convenient for yf purpose of gate a very litle offe  
 and yf gate windowes yf of a great gate some  
 yf flower or other some litle tower neare unto yf  
 and yf yf place be convenient for yf purpose then  
 for you muste do first yf place muste be assigned  
 yf you wold be in yf place and then wether yf  
 place be far of or neare then you muste place the  
 first glasse at litle against a window if it is open  
 unto yf place and if done yf it be very litle  
 then turne yf shadow of yf glasse accordingly as  
 you do so cause for your purpose bringinge the  
 shadow downe wardes and against yf place place  
 an other glasse to receive <sup>the shadow of</sup> the shadow of yf litle  
 a brode and if done you may turne yf shadow of yf  
 glasse downwardes unto a litle place yf you litle  
 and so place another glasse against yf at your dis-  
 cretion and so to place at many glasse untill yf  
 your hand brought it unto yf place yf you wold  
 bringe it unto and then to set all yf glasse fast  
 for yf any of them be turned neare so litle then



1 -  
if Radon will be turned awyfte of y<sup>e</sup> place and by this  
meane you may knowe of Radon of any thinge by  
glasse made of an proportion from one place unto an  
other whiche if you can broght it unto what place  
you do desire at your pleasure and so by this meane to see  
howe farre weste thinge is a bode.

if reflection  
will be very  
weak

De 123 Devis Cosmographie

And furthermore I do touch at comment for any place  
for to knowe y<sup>e</sup> distance howe farre y<sup>e</sup> it is unto any  
towne upon y<sup>e</sup> face of y<sup>e</sup> world whiche and y<sup>e</sup> it is  
knowne y<sup>e</sup> true longitude and y<sup>e</sup> true latitude be  
y<sup>e</sup> knowne then do this first of y<sup>e</sup> place if you are  
in y<sup>e</sup> knowinge y<sup>e</sup> latitude y<sup>e</sup> it is to say howe many  
degrees y<sup>e</sup> y<sup>e</sup> pole of y<sup>e</sup> world is elevated above the  
horizon and then in this manner to knowe the  
true longitude y<sup>e</sup> it is to say to knowe howe many  
degrees y<sup>e</sup> it is from y<sup>e</sup> meridian of y<sup>e</sup> same place  
and y<sup>e</sup> knowne y<sup>e</sup> y<sup>e</sup> place if you doo require howe  
y<sup>e</sup> longitude y<sup>e</sup> your towne hath and hath another  
latitude then see howe many degrees y<sup>e</sup> the two places  
differ at this subtract y<sup>e</sup> less awyfte of y<sup>e</sup> more  
both in degrees and minutes and then y<sup>e</sup> residue left  
remaineth shall be y<sup>e</sup> degrees of difference and if there  
then multiply y<sup>e</sup> number of degrees by 60 thus flow



Every myll is over and over and is in the same distance  
 unto the same town from you & for in latitude all  
 wayes 60 mylls is a degree and by the same land  
 of latitude of your town laty but it hath another  
 longitude then in the same manner subtract the less longi-  
 tude from the greater longitude both in degrees & minutes  
 and by beinge knowen then seek how many mylls  
 will make a degree in the same ball and if you shall  
 knowe in the same of my booke called the  
 agreement for the same demonstration of earths  
 a rule may be for the purpose and then by beinge  
 knowen then multiply the degrees of description by  
 the number of mylls to a degree in the same ball and it  
 will shew unto you the true number of mylls unto  
 the town & but if the same town doth differ both  
 in degrees of longitude and also in the latitude then  
 it be farre as desired subtract the less one off the  
 other more specially both for the longitude and the latitude  
 and so by description beinge knowen both in  
 longitude and in latitude then for the description of  
 latitude multiply the number of degrees by 60 for  
 60 mylls is always a degree in latitude but for  
 the degrees in longitude you must seek how many  
 mylls will make a degree in both the same



It is to say for the parallel of your town and the  
 parallel of the other town and then multiply  
 first the number of degrees of declination by the middle  
 into a degree of your town and then in the same  
 multiply the number of degrees by the middle into a degree  
 of the other town and then add both these two  
 numbers into together and then take the square  
 two numbers added together and then multiply the  
 number that you have taken in the square of both these  
 parallels added together squarely it is to say in  
 the self number and then multiply the number  
 of middle in the degree of latitude in the same squarely  
 and then add both these numbers to together it is to say  
 the number multiplyed squarely for the longitude and  
 also the number that is multiplyed squarely for the latitude  
 and then to extract the square root of both these two  
 numbers added together and the radical number is  
 the true distance between the two towns as it is  
 more at large written in the first chapter of the  
 second part of my book called a theorie for  
 travellers

The 124 down compass  
 And now to show unto what quarters of the world it  
 one town both from another it is to say by what



point of the compass if it standeth one from you it is then  
 known in the manner by the degrees of longitude &  
 of latitude at this yf it hath the longitude of your  
 town hath and in latitude is more degrees then  
 your town hath then the place is due north from you  
 and yf it hath fewer degrees in latitude then your  
 town hath then it is due south from you and yf it  
 hath the just latitude of your town and <sup>fewer</sup> ~~fewer~~  
 degrees in longitude then your town hath then the  
 place is due west from you and yf more degrees of longitude  
 then it is due east from you and yf it differ both  
 in longitude and in latitude then to know by what  
 part of the compass it is bearing it is then known yf  
 it hath fewer degrees of longitude then your place  
 and fewer degrees in latitude in the manner then  
 it is according unto the number of degrees respectively  
 according unto the number of miles at this yf the place  
 be set in the longitude and the latitude both in the same  
 or quantity then the place is due west from you  
 and yf the place be less in latitude and more in  
 longitude then your place is and the number of miles  
 from your place equal both in longitude and latitude  
 then the place is due east from your place and yf  
 the other town or place hath more degrees or miles  
 both in longitude and in latitude & the number equal



then y<sup>e</sup> town or place is north east from you and yff  
 y<sup>e</sup> place hath fewer degrees of longitude and more  
 degrees of latitude and especially y<sup>e</sup> degrees and number  
 of myles square then y<sup>e</sup> town or place is north west  
 from your town or place & according unto y<sup>e</sup> proportion  
 y<sup>e</sup> it beareth according unto y<sup>e</sup> degrees or of y<sup>e</sup> number of  
 myles y<sup>e</sup> one place is from y<sup>e</sup> other and so shall it be  
 from you accordingly by y<sup>e</sup> points of y<sup>e</sup> compass as  
 y<sup>e</sup> do more at large declare in y<sup>e</sup> former chapter of this  
 second pt<sup>e</sup> of my booke called astronomicall tables

### Sec 125 Astronomie

\*

And furthermore as touching this I have for to know  
 how far to take y<sup>e</sup> latitude or y<sup>e</sup> altitude of the  
 pole above y<sup>e</sup> horizon y<sup>e</sup> do show how far to do  
 it in y<sup>e</sup> 6<sup>th</sup> and 7<sup>th</sup> chapter of my booke called the  
 regement for y<sup>e</sup> sea and this is several how far to  
 do it w<sup>th</sup> instruments and for y<sup>e</sup> other y<sup>e</sup> be  
 hath not instrumented at all tyme above the  
 sea y<sup>e</sup> do think it very necessary for to be known  
 how far to know y<sup>e</sup> height of y<sup>e</sup> sunne by y<sup>e</sup> shadow  
 of y<sup>e</sup> sunne w<sup>th</sup> a staffe for to know how many  
 degrees of y<sup>e</sup> sunne is in height - how the horizon  
 as the tack a staffe off 5 foot long and divide  
 that in to 60 equal pt<sup>s</sup> and then draw y<sup>e</sup> line







31	1	39	$\frac{17}{20}$	51	48	$\frac{7}{12}$	71	20	$\frac{13}{20}$		
32	1	36	$\frac{1}{80}$	52	46	$\frac{13}{15}$	72	19	$\frac{39}{80}$		
33	1	32	$\frac{23}{60}$	53	45	$\frac{1}{5}$	73	18	$\frac{1}{3}$		
34	1	28	$\frac{12}{20}$	54	43	$\frac{7}{12}$	74	17	$\frac{1}{5}$		
35	1	26	$\frac{41}{60}$	55	42	$\frac{1}{60}$	75	16	$\frac{1}{15}$		
36	1	22	$\frac{17}{30}$	56	40	$\frac{7}{15}$	76	14	$\frac{12}{20}$		
37	1	19	$\frac{37}{60}$	57	38	$\frac{12}{20}$	77	13	$\frac{17}{20}$		
38	1	16	$\frac{4}{15}$	58	37	$\frac{29}{60}$	78	12	$\frac{3}{4}$		
39	1	14	$\frac{1}{12}$	59	36	$\frac{1}{20}$	79	11	$\frac{13}{20}$		
40	1	11	$\frac{1}{2}$	60	34	$\frac{12}{30}$	80	10	$\frac{17}{30}$		
41	1	9	$\frac{1}{60}$	61	33	$\frac{1}{4}$	81	9	$\frac{1}{2}$		
42	1	6	$\frac{12}{30}$	62	31	$\frac{2}{10}$	82	8	$\frac{13}{30}$		
43	1	4	$\frac{1}{3}$	63	30	$\frac{17}{30}$	83	7	$\frac{11}{30}$		
44	1	2	$\frac{2}{15}$	64	29	$\frac{1}{4}$	84	6	$\frac{3}{10}$		
45	1	0	0	65	27	$\frac{29}{30}$	85	5	$\frac{1}{4}$		
46	0	57	$\frac{14}{15}$	66	26	$\frac{43}{60}$	86	4	$\frac{11}{60}$		
47	0	55	$\frac{12}{20}$	67	25	$\frac{7}{15}$	87	3	$\frac{2}{15}$		
48	0	54	$\frac{1}{60}$	68	24	$\frac{7}{30}$	88	2	$\frac{1}{12}$		
49	0	52	$\frac{3}{20}$	69	23	$\frac{1}{30}$	89	1	$\frac{1}{20}$		
50	0	50	$\frac{1}{3}$	70	21	$\frac{5}{6}$	90	0	0		
part of in 2400 off 2 soft in 2400				part of in 2400 soft = 26 in 2400				part of in 2400 soft = in 2400			



Reg 126 Item ~~as~~ ~~the~~ ~~same~~

And also by the length of the shadow  
of the same staff you may know  
the true power of the day that is to say  
whether it is a clock as it is commonly  
termed and for to do it you shall do the  
last any staff or stick of what length  
that you list and divide that into  
12 ~~or~~ equal parts as if it were a  
foot and then every part shall be an  
inch and then according unto every  
month in the year shall the follow  
a table as the length of the shadow at noon  
and the staff or rule of a foot long by  
first the number in the square as the number  
of feet or the staff or rule the second number  
of inches or the gold divis syones and the  
third is the parts or divis syones of inches  
that will not be a gold inch as the number



12  
in the square square is the longest of the shadow  
of the staff at 11 of the clock and one of the clock  
and as before you requested the first numbers  
is the number of the longest of the staff and  
the square number of inches and the tenth  
the other parts that will not be an inch and  
tenth square is the longest of the shadow at  
10 of the clock and 2 of the clock and as before  
is the number as and in the fourth square  
that is the longest of the shadow at 9 of the clock  
and 3 of the clock as before you requested and in  
the square it is the longest of the shadow of the  
staff at 8 of the clock and 4 of the clock and  
now in that square there is but two numbers and the  
first is the number of the longest of the staff  
and the other the inches or divisions and  
in the 6 square is the longest of the shadow of  
the staff at 7 of the clock in the morning  
5 of the clock in the afternoon and in the 7 square  
is the longest of the shadow of the staff at 6



of the clock in the morning and 6 of the clock  
 in the afternoon and in the square is the longest  
 of the shadow of the wall or staff at 5 of the  
 clock in the morning and 7 of the clock in  
 the afternoon and in the square is the longest  
 of the shadow of the wall or staff at 4 of the  
 clock in the morning and 8 of the clock in  
 the afternoon and now for with the table



From 1st day	0.6.3	0.7.5	0.9.1	1.0.1	1.0.5	2.0.0	3.0.3	7.1
From 1st day	0.7.1	0.8.0	0.10.0	1.0.0	1.0.4	1.0.6	2.0.1	3.0.6
From 1st day	0.9.4	0.9.3	0.11.1	1.4.4	1.0.8	2.0.7	4.10	21.0
From 1st day	0.10.0	0.10.5	1.0.0	1.5.0	1.11	2.11	6.3	
From 1st day	1.0.0	1.1.1	1.4.1	1.9.0	2.7	4.7	16.0	
From 1st day	1.3.0	1.4.0	1.7.0	2.0.0	3.0	6.0		
From 1st day	1.8.4	1.9.3	2.1.3	2.9.1	4.8	19.0		
From 1st day	1.11.1	2.1.4	2.8.4	3.5.3	6.8			
From 1st day	2.7.1	2.9.1	3.6.0	4.6.0	17.0			
From 1st day	3.0.0	3.3.4	4.2.0	6.10.0	50.0			
From 1st day	3.7.0	4.0.0	5.2.0	10.10.0				
From 1st day	3.8.4	4.1.3	5.5.0	13.4.0				







And I praye you to be so good  
 that you will let me know that you have  
 made full provision for the same and that you  
 may send letters and other letters of your  
 friends from time to time as you see fit that you  
 may deliver your estate to your friends and  
 also to know your friends and to be able  
 to see that there is any given or doffed by me  
 to them to be well rewarded before hand  
 and then may a certain number of the best given  
 unto your friends and then in full mandement  
 a certain number of the best from your friends  
 and then let them be kept close in a house  
 if they are not yett away and then we will  
 that you be so good to let me know that you can not  
 send unto your friends nor your friends unto you then  
 when you list to send any letters then take  
 one of the best given and make the letter first  
 at the best for me by some provision that it  
 do not trouble the mynister and he will reward  
 unto the doffed if he was requested at the gate  
 by long service unto them if doffed to my friend



every myght you shall com by the letter & c  
 The 128 de vnt staticke

for to take from leade stone or any kinde of metall \*  
 weight powder & it be to burne in y<sup>e</sup> water w<sup>th</sup>  
 myght & ayd of any tempe<sup>r</sup> for soport it or beare  
 it w<sup>th</sup> the to be done to make it followe or to care  
 the = bowle or bott or a troff or weight / for y<sup>e</sup> be  
 over that it stand vntill y<sup>e</sup> y<sup>e</sup> side may be rasht  
 so fast y<sup>e</sup> y<sup>e</sup> water can not com over y<sup>e</sup> top of it  
 y<sup>e</sup> side vntill y<sup>e</sup> the is y<sup>e</sup> magnitude or quantity  
 of y<sup>e</sup> salt for every foot square to be in weight  
 vnder 5 = pounds and y<sup>e</sup> more y<sup>e</sup> it is the the  
 better it will burne w<sup>th</sup> myght any faile & c

The 129 de vnt perspective

to it is not unknowne in y<sup>e</sup> port vnto all \*  
 persones y<sup>e</sup> you may burne any thing y<sup>e</sup> is apt  
 to burne w<sup>th</sup> a glas at hand w<sup>th</sup> y<sup>e</sup> be done by  
 the some beames pearseinge the vnter y<sup>e</sup> glas  
 for y<sup>e</sup> y<sup>e</sup> some beames to vnter and finte  
 all to get the in the center the of w<sup>th</sup> y<sup>e</sup> is  
 the very cause y<sup>e</sup> it burneth and as we do  
 w<sup>th</sup> y<sup>e</sup> of any metal burne the w<sup>th</sup> y<sup>e</sup> w<sup>th</sup> y<sup>e</sup>



at Swansfe in the floure of sydneye some ear  
 proposed it to be done to be seen and the syde of  
 glasse whereby it must be possible were for  
 it most needeth to be that they were bound in  
 glass to be and of reflection of the beam bound  
 bound onto them but this is to be noted  
 it is possible that fewer glasse may serve  
 to bound any thinge than in the latitude of  
 that it was done in this latitude for that  
 the beam bound more after for the latitude  
 of Syracusa is but 35 degrees and a half  
 and to bound any thinge any great distance  
 of the glasse it requirith to have some  
 light in geometrie or else it is not possible  
 to do it and for to bound any thinge  
 it is apt to bound it must be the same  
 they must prepare an number of glasse of  
 the same of purpose and well polished  
 to place these glasse to bound they must do  
 this the place beinge assigned to bound at



yf it were yon powder flou or too or yon  
 or too or fure lye & tinges y will tace  
 quicly the some fymple being tryed  
 yon fott y glaze a gylt the fone and yon  
 turne the reflection beam or fadoure  
 unto the place dygred and then place an  
 other glaze in the tyet maner and turne the  
 reflection beam or fadoure unto y place in  
 the maner ryght upon y firt end of the  
 beam or fadoure and fo to place ~~now glaze~~  
 to be fower & all y reflection beam or fa  
 dours dotz wyl upon one place and fo by a gylt  
 number of glazes to molt the y fhatt in the  
 beam. It will be in one fyre and forme  
 but you myf be fower y all the reflection  
 beams or fadours dotz wyl in one place or all  
 it will be unto no purpoff and at a great dyftance  
 you fhal have myf to doe to deftine or fo  
 ut & therefore you myf have the rde of  
 geometrie to wyl it accordyng unto the dyftance  
 and to place y glazes in a fiam wyl y doe



onlyt at this tyme for breakfast &c

Page 130 device perspective

\* How to see any thing a great distance  
off from you at requirte the eye of the  
glasse and one glasse must be made of your own  
and it may be made in such sort that you may  
see a small thinge a great distance off at this  
to reade a letter that is sett upon the quarter  
of a myle from you and also to see a man  
4 or 5 myles from you or to see a town or  
castell and to see any window or such like  
thinges 6 or 7 myles from you and to see  
what man of glasse that this must be the  
one glasse that must be made of your own  
the small burninge glasse of the kind  
of glasse and must be round and sett in a  
frame at this be that that it must be made  
very large of a foot or 14 or 16 inches broad  
and the rounder bruder the better & if properly



of the glasse is that if you do behold any  
 thinge therof it is as if you were your eye beinge  
 nere unto it then it sheweth it self according  
 unto the thinge but as you doe go backward  
 the thinge sheweth bigger and bigger untill  
 that the thinge shall seme of a monstrous  
 bignes but if you do go to the back then  
 it will declare and be small and turne the  
 face from downeward but now to use the  
 glasse to see a small thinge a great distance  
 then do thus the thinge or place that you would  
 see and determine sett that glasse first and in  
 mydd of the glasse to finde right wher place  
 assigned and be sure that it doth nott find object  
 or away by no means and then take  
 away your hande to change glasse if it were  
 polished and sett that glasse directly right  
 with the polished side against the first glasse  
 to the intent to receive the beam or shadow that  
 cometh thence the first placed glasse and sett



at at length in a distance of eight or ten  
 full marks of beam or Radon so large that  
 may save your time and so by the means you  
 shall be in the looking glass a small thing  
 a great distance from the first place in  
 glass be well made and very large you  
 may discern and know the face or figure  
 of a man a myll of stone you will find  
 in my opinion that it is very necessary in  
 divers respects at the viewing of any thing  
 of more and further the things which  
 do omitte &

Dec 13 1600

\* for to make a crane or jargon or any to work  
 any great weight you may know before hand  
 what it will work at in the 100 lb and  
 also you may multiply the things in such  
 sort that you may make a 100 weight to work  
 or lift up 20000 yea 100000 weight & that  
 you will at the time or jargon that



take a wheel of 12 foot in diameter and fix it to  
 a foot in diameter more and so forth going  
 in the wheel of any length more then 100 wayft  
 a will way 1200 wayft and then you may find  
 and other wheel of <sup>that</sup> diameter and fix it to a  
 and a wheel to you a wayft & transmission of the  
 first wheel into the second of the next wheel  
 then & so forth to you ~~the~~ next wheel will  
 way or less 14400 and further more off it  
 you shall have a triple wheel in the same  
 of the diameter in all points then & so forth going  
 in the wheel / Total way or less 172800  
 & containe 86 tons and a half but then it  
 will be a little weary to use and the length of it  
 will be 100 or 120 ft at a minimum and will  
 be very strong to turn / In a good way  
 and will be the first wheel and by the end  
 you may multiply the length to 100 wayft  
 sufficiently to drive 122 horse  
 and further more you may make as many







as no / new / to / more / but / it / hath / time / done / by  
 in / gotten / as / you / may / see / by / the / title / at / the / top  
 of / the / page / some / young / men / of / letters / and / others  
 you / may / perceive / as / they / are / printed / at / the / top / of  
 the / paper / in / the / title / do / some / a / long / time / more  
 might / be / as / if / they / had / not / been / printed / for / to  
 speak / my / self / to / make / by / some / other / words / to  
 give / other / men / to / know / that / they / are / printed / and  
 my / self / have / time / given / unto / it / at / the / same  
 time / and / have / it / printed / and / others / suppose  
 that / it / is / the / same / and / have / it / printed / and / have  
 may / you / see / the / bottom / of / the / paper / to / be / a / little  
 of / the / paper / or / other / matter / it / is / for / to / alter  
 it / and / may / it / be / made / to / seem / to / speak / some  
 words / according / to / the / copy / of / the / invention / so  
 that / if / simple / people / will / marvel / at / it / and / for  
 to / make / a / trade / or / good / made / of / wood / and  
 of / the / other / things / made / by / the / hand / of / the  
 it / is / to / be / done / as / is / written / to / you / in / the / paper  
 and / it / is / to / be / done / as / is / written / to / you / in / the / paper  
 or / for / the / sake / of / the / people / of / the / world / in / the / same

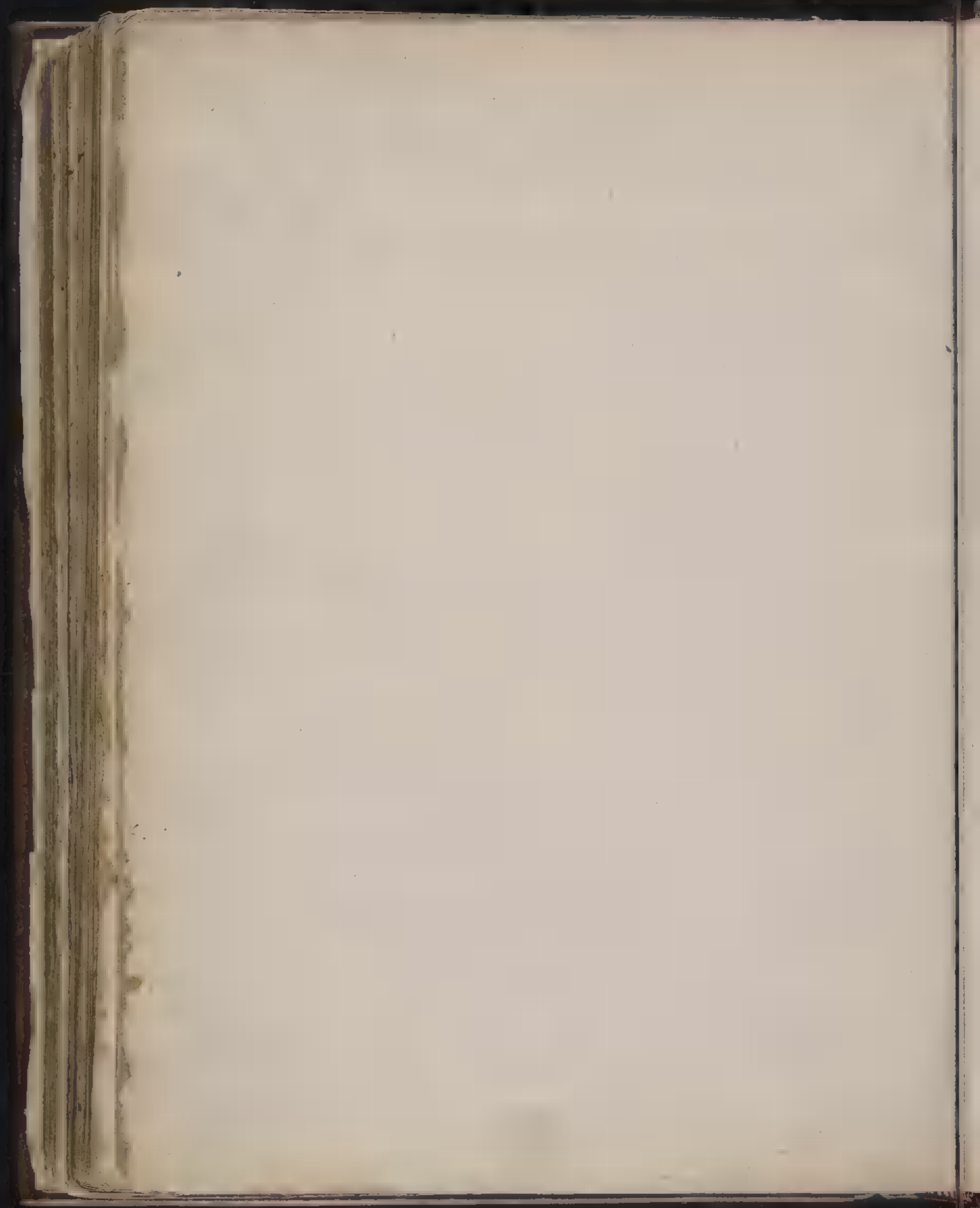


it may fly and also to meet byrds of murther  
 to singe & say softly am good myght yf may  
 be done at handes to go at any power or time  
 appointed by xcometer and then to say pypp  
 first time or other pypp me lalle to goe at bellows  
 and the pypp to say / topot am to goe and a  
 lanted by pypp we get not at yf inuentis / say  
 tembe good we get so do the mact it be and  
 all the ther may be dyed & gettys to mact  
 it to some xlyant unto yf. carob of yf. pypp  
 by the thinge yf. pypp or a bynde of yf. pypp  
 to say the son or in to water for yf will mact  
 a quaremyng at byndt dow be and also yemmyng  
 mact a mayll pypp it is byt a man  
 woman to say to goe by pypp and pypp  
 and shall turne and get the mact according  
 unto yf pypp of yf. we gettys and pypp  
 and also yf. mact made to fly by at to fly  
 to mact by at it shall play the mact by  
 yf. pypp of yf. we gettys and pypp  
 other byt mact mact we gettys the common

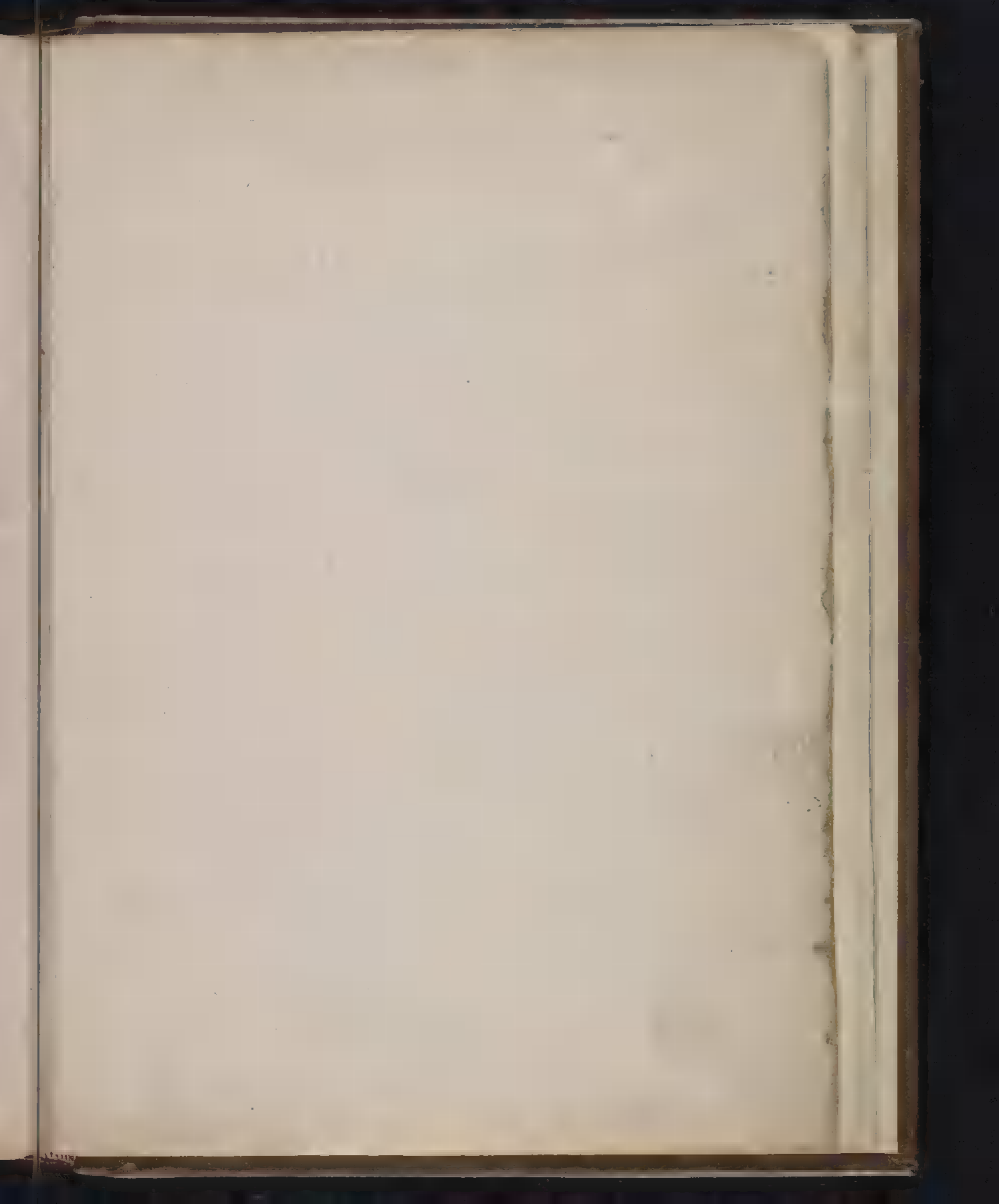


scorrell wood marvell at tyme being y<sup>t</sup> it is  
done by freghantment and y<sup>t</sup> it is done by no  
other means but by good order and transfull

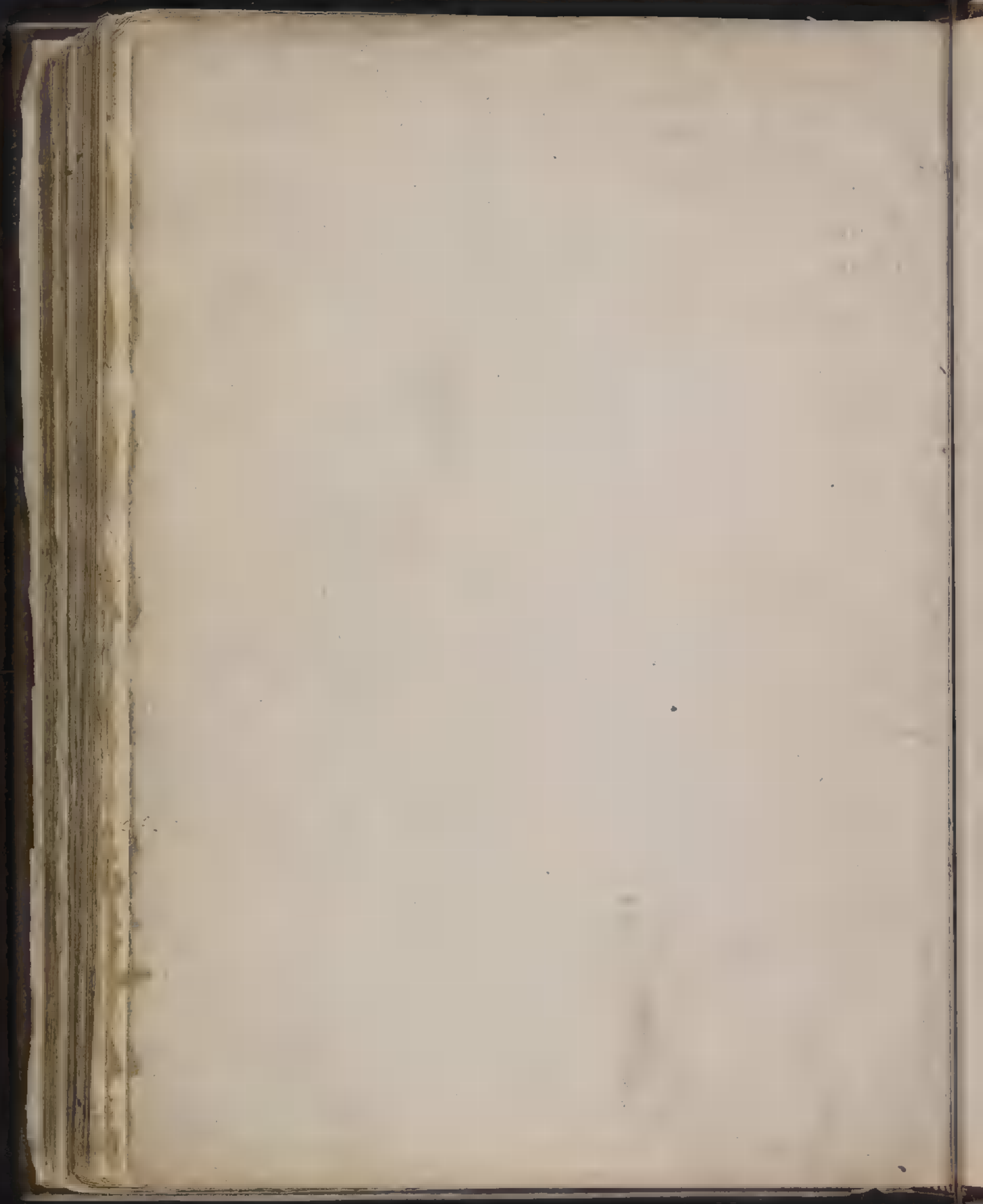




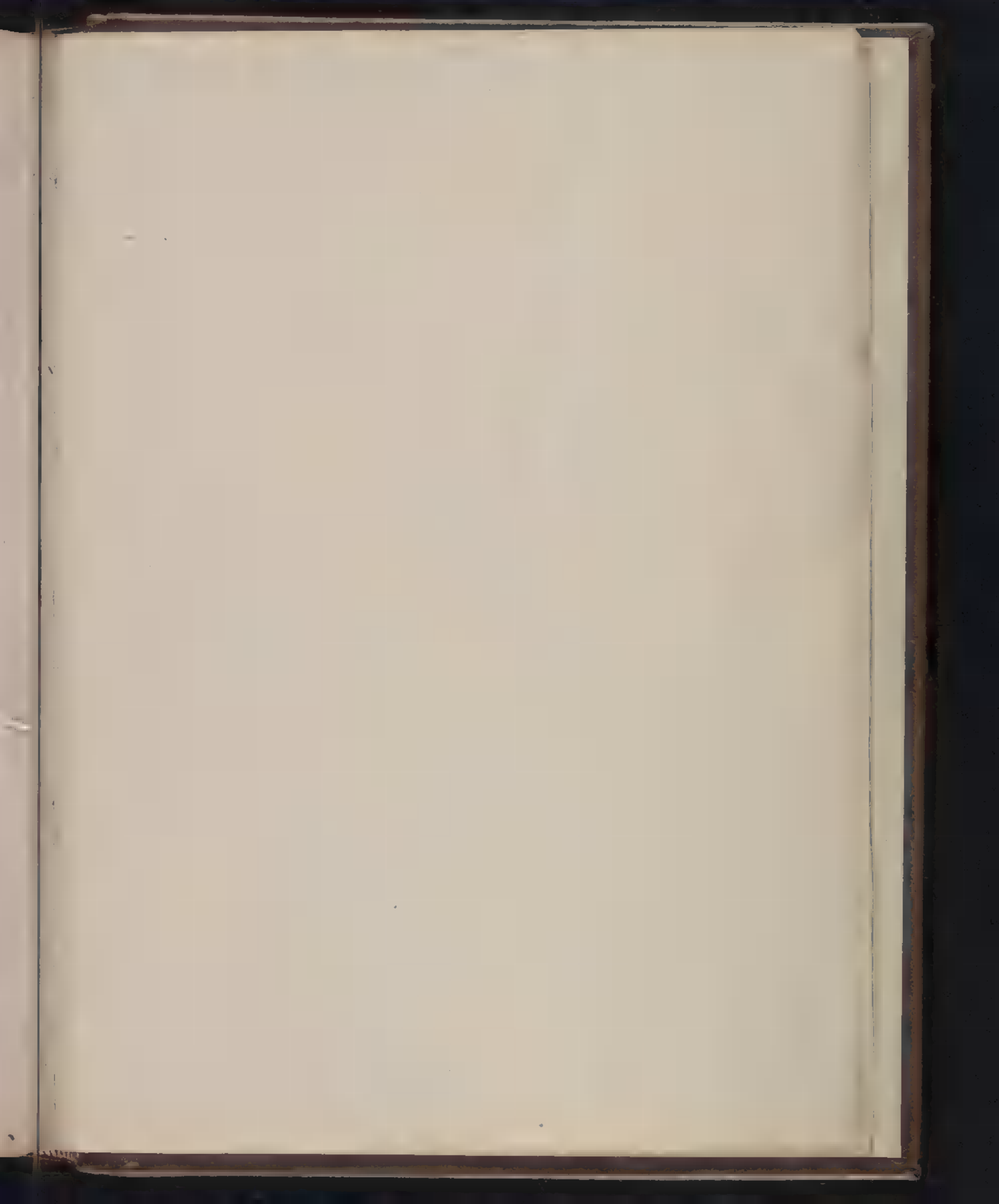




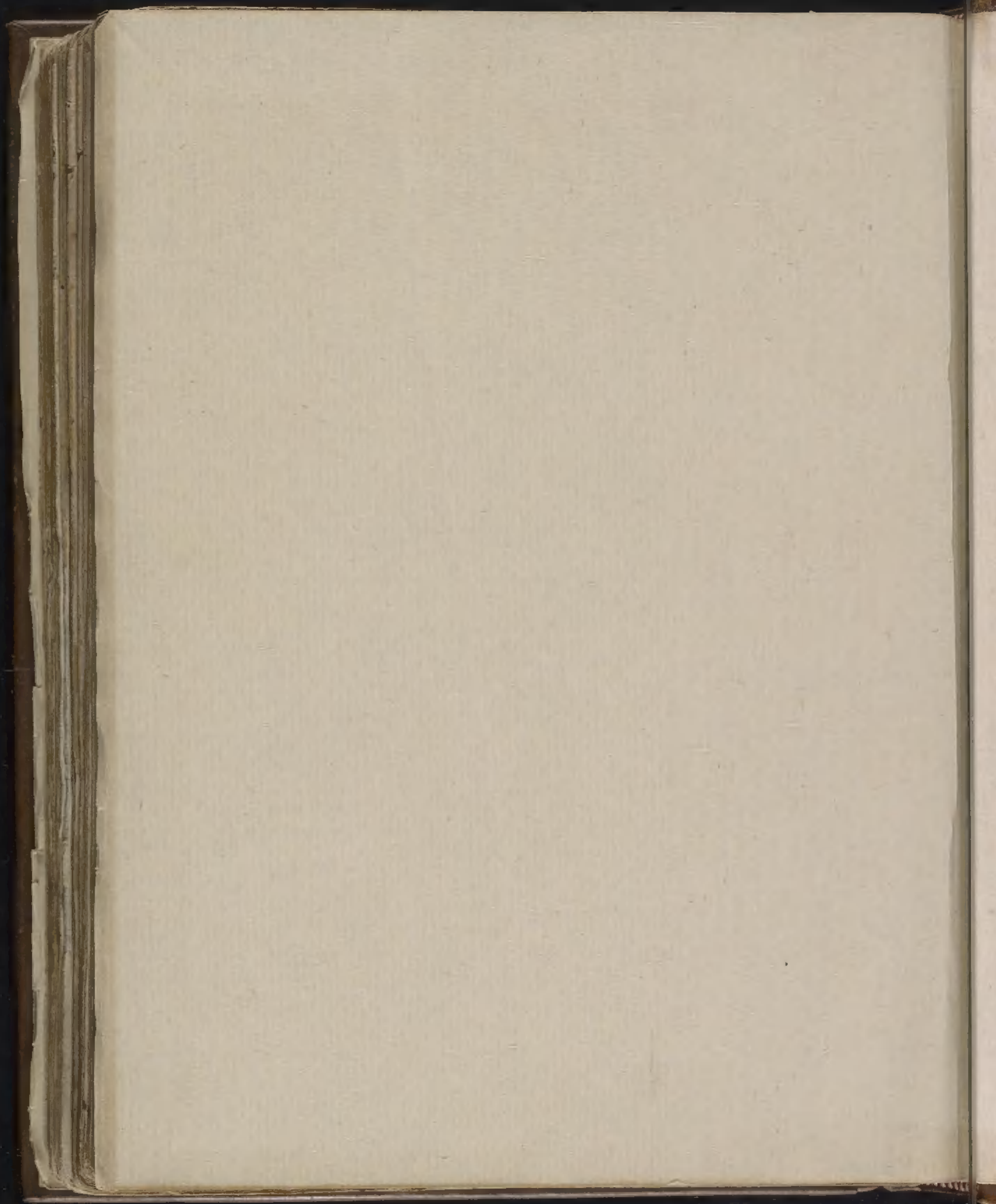




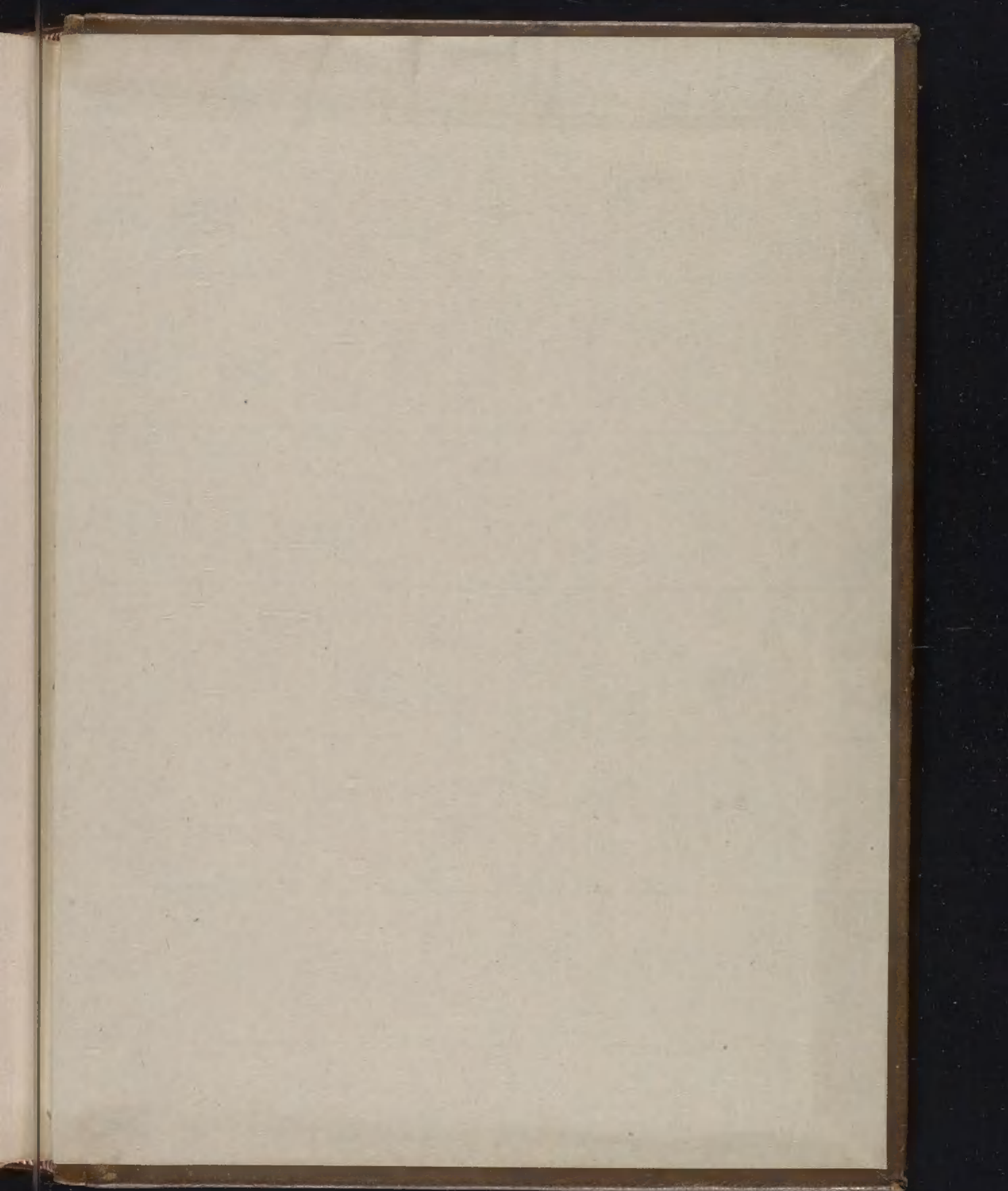




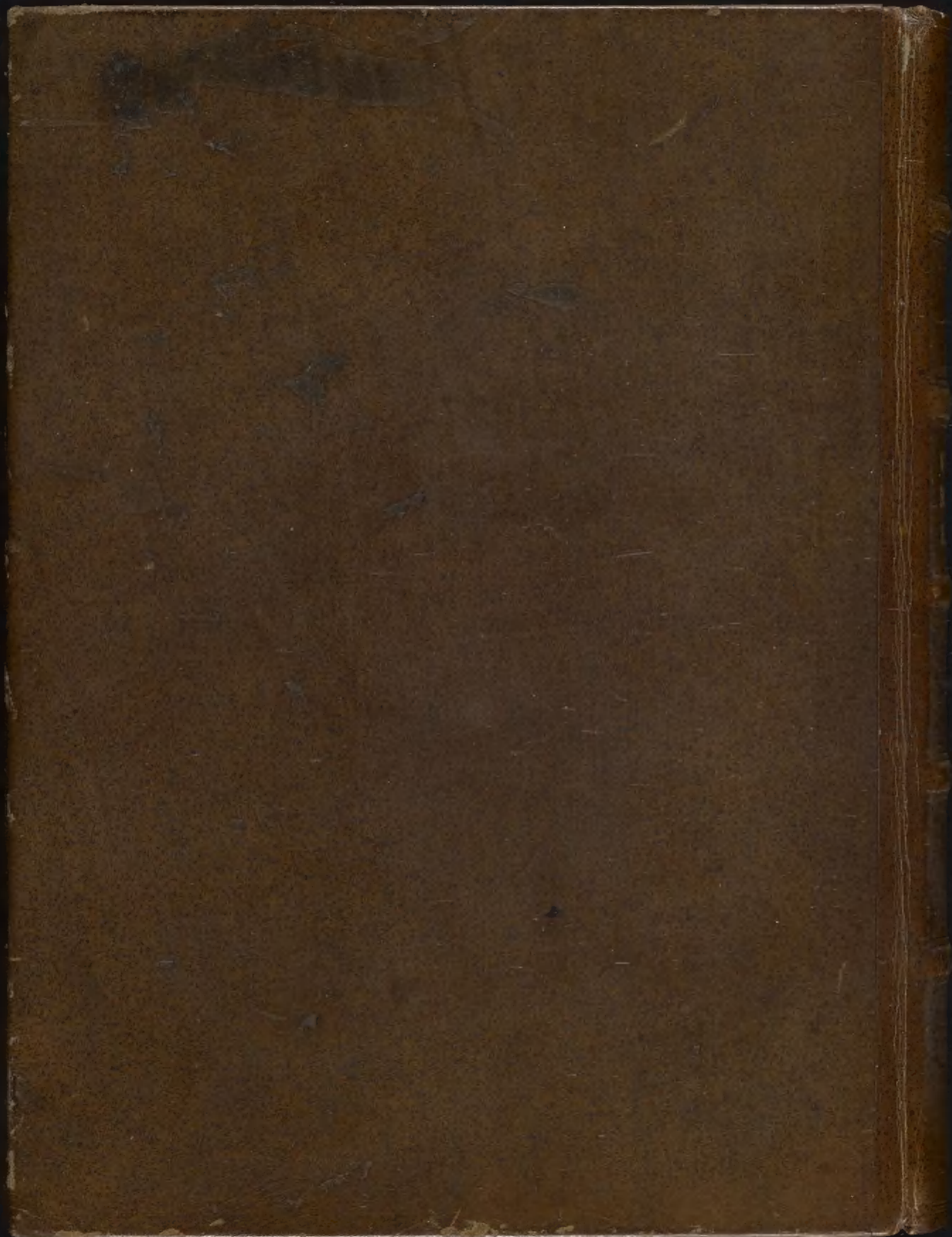














MSS

WILLIAM  
BOURNE  
REPORT